



ALLEN

Service and Testing Equipment





FOR MOTOR TUNE-UP
BATTERY TESTING
BATTERY CHARGING
ELECTRICAL SERVICE
SPOT and ARC WELDING





ALLEN
KALAMAZOO





ALLEN ELECTRIC and EQUIPMENT COMPANY • KALAMAZOO, MICHIGAN

NEW ALLEN SERVICE and TESTING EQUIPMENT

MOTOR TUNE UP . . . BATTERY CHARGING and WELDING EQUIPMENT



MODEL E-300

MOTOR ANALYZER

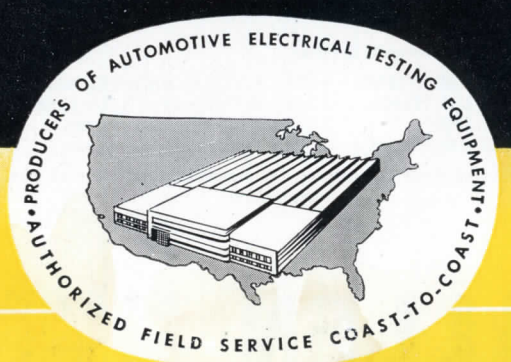
with

INDIVIDUAL INSTRUMENTS

ULTRA MODERN DESIGN

- **COMPLETE, ACCURATE TESTING**
  Starting — Lighting — Ignition
- **SEPARATE TESTING UNITS**
  Removable from cabinet
- **INDIRECT ILLUMINATION**
  All meters indirectly illuminated. Owner's name etched in Lucite with illuminated lettering
- **50" HIGH, 44" WIDE, 18" DEEP**
  Individual units, 7" high, 11¼" wide, 5" deep.

SEE THE NEXT PAGE FOR DESCRIPTION OF INDIVIDUAL UNITS



ALLEN ELECTRIC and EQUIPMENT CO.

KALAMAZOO, MICHIGAN

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Form C-100 A AW
Supersedes C-100 — 10-1-47

Model E-300

ALLEN MOTOR ANALYZER

DESIGNED TO MEET THE EXACTING REQUIREMENTS OF MODERN SERVICE EQUIPMENT

The Model E-300 Motor Analyzer is designed for complete and accurate engine analysis. It tests Ignition, Compression, Carburetion, and Starting and Generating Systems on all types of gasoline operated internal combustion engines.

Each of the separate testing units is removable from the cabinet for individual use.

Features....

- **EIGHT INDEPENDENT TESTING UNITS — Units can be used simultaneously if desired, for fast, accurate testing in the cabinet — in the field — in any part of the shop. Saves time and increases profits.**
- **METERS INDIRECTLY ILLUMINATED — Large, easily read dials are indirectly illuminated. Alnico magnet moving coil meters manufactured by Allen to highest standards of precision assure accurate, consistent readings.**
- **ILLUMINATED FIRM NAME SIGN — Firm name is etched in Lucite panel and lighted from below. Twenty nine letter-spaces are provided for this purpose. Directs customers' attention to Tune-Up department and makes service easier to sell. Specify lettering desired when ordering, or use self-addressed return order blank included with the Analyzer to order after delivery. No. 7309 etched panel furnished no charge with original shipment. Additional panels $12.95 each.**
- **BATTERY OPERATED INSTRUMENTS — Each instrument requiring power for its operation is battery operated, no alternating current is required for the instruments. Alternating current is required only for firm name plate illumination and for the battery trickle charger.**
- **COLOR CODED TEST LEADS — All test leads are color coded for ease in identification. Plugs and sockets are designed to prevent improper connections.**

COMPLETE INSTRUMENTATION

The Allen Motor Analyzer provides a complete set of instruments for testing all phases of operation of Ignition, Compression, Carburetion and the entire electrical system.

Eight separate instruments include:

E-301	CONDENSER TESTER	E-305	VACUUM AND FUEL PUMP TESTER
E-302	VOLT-AMP TESTER	E-306	COMBUSTION ANALYZER
E-303	COIL TESTER	E-340	COMPRESSION TESTER
E-304	DWELL-TACH TESTER	E-323	POWER TIMING LIGHT

(See following pages of catalog for complete description of above instruments)

MODEL E-310 CABINET

This modern, well designed cabinet is finished in sand and cream baked enamel with chromium trim. The E-310 combines attractive appearance with strength and utility. The cabinet rides on smooth running, easy swivelling ball bearing casters. Foot operated locking brakes on rear castors.

Two drawers provide ample space for storing test leads, instruction manuals, extra tools and equipment. A ventilated rear drawer houses the storage battery, and a trickle charger is supplied in the Cabinet to keep the battery charged at all times.

The Lucite panel at the top of the Cabinet is etched with the owner's name and is illuminated from below. Overall dimensions — 52" high, 45" wide, 23" deep. Shipping weight, 230 lbs.

INSTRUCTION AND TRAINING

Instruction books clearly written and well illustrated, and complete technical information covering the use of each instrument are supplied with the Motor Analyzer. The owner is also given thorough personal instructions in the use of the E-300 Motor Analyzer by a factory trained representative.

NEW... PUSH BUTTON HANDLES

A carrying handle is set flush in the top of each individual instrument. Just press a button and it pops up, making the instrument easy to carry around. Also, rubber covered hooks are flush mounted in the back of each instrument. These swing out so that the instrument can be hung on the vehicle conveniently near the unit being tested.



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Form C-100 A & AW
Supercedes C-100 — 10-1-47

ALLEN SERVICE and TESTING EQUIPMENT

MODEL E-301
CONDENSER TESTER

The Allen Model E-301 CONDENSER TESTER is a precision instrument for testing the condition of battery ignition and magneto condensers. The condenser is tested for SHORTS, OPENS, LEAKAGE, CAPACITY, and SERIES RESISTANCE (DAMPING). Long leads are provided for testing the condenser on or off the vehicle. The unit operates from either the vehicle 6 volt storage battery or from a separate storage battery. No AC supply is required.

FEATURES

1. Operates from 6 volt storage battery. Alternating current not required.
2. Large illuminated meter with moving coil and Alnico magnet. Calibrated to give direct reading of condenser conditions.
3. Color coded plug-in type 6 ft. test lead for testing ON or OFF the vehicle.
4. High frequency series resistance test locates cause for short life of distributor breaker points.
5. Selector switch provides for making all tests without changing connections.
6. Pop-up carrying handle and swing-out hanger brackets.

Dimensions — 7" high, 11¼" wide, 5" deep. Shipping weight, 10 lbs.

MODEL E-302
VOLT-AMP TESTER

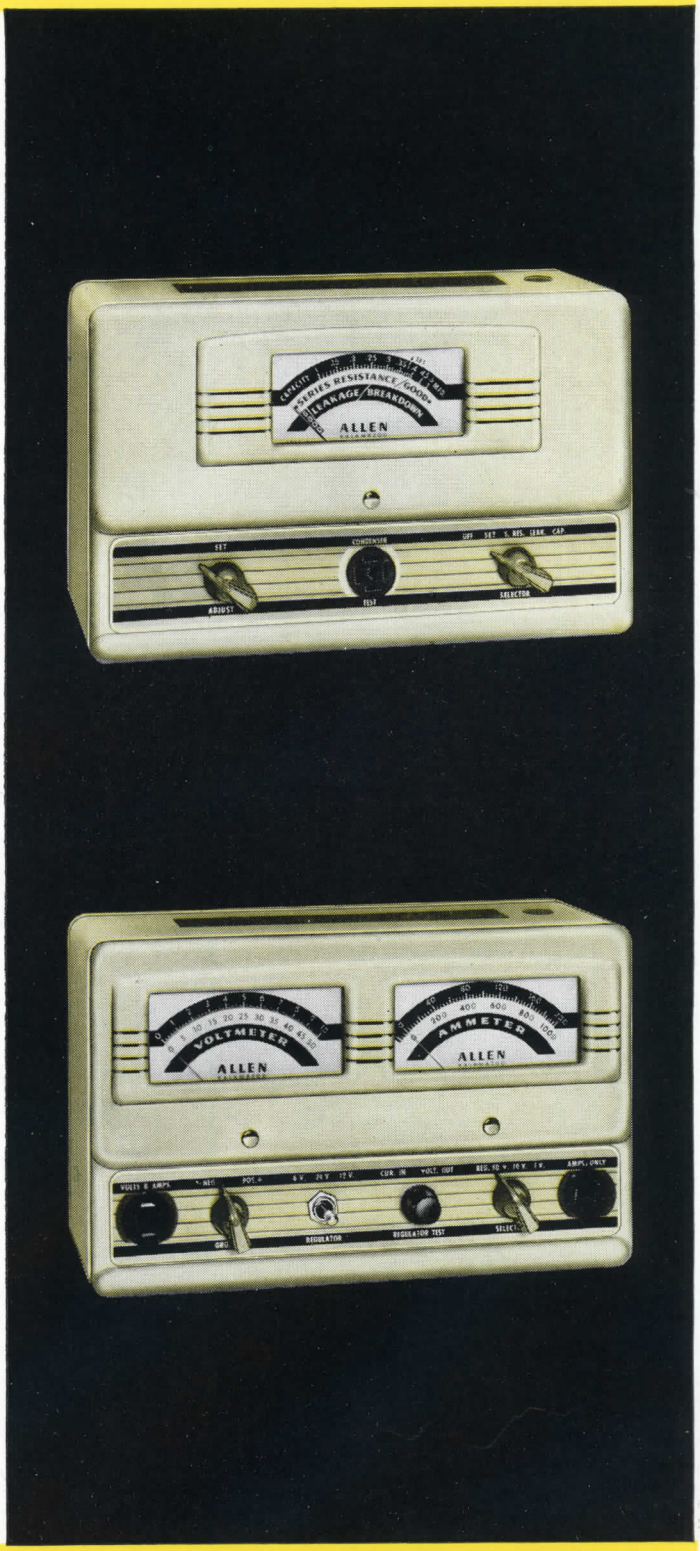
Precision Voltmeter and Ammeter measure all values of voltage and current in the vehicle electrical system. Contains built-in fixed resistors with push button control for simplicity in setting voltage and current regulators. An absolutely essential instrument for setting relays, regulators, generator charging rates and measuring voltage drop in the starting, lighting, and ignition circuits.

FEATURES

1. DC Voltmeter ranges, 0—1, 0—10, 0—20, and 0—50 volts.
2. DC Ammeter range, 0—100 amperes. External shunts optional at extra cost for 10, 200, and 1000 amperes.
3. Large illuminated meter with moving coil and Alnico magnet. Guaranteed accuracy better than 2 percent.
4. Color coded plug-in type 6 ft. test leads. Only two connections necessary for all regulator tests.
5. Unnecessary to remove regulator cover for testing. Battery condition does not affect tests.
6. Pop-up carrying handle and swing-out hanger brackets.

Dimensions — 7" high, 11¼" wide, 5" deep. Shipping weight, 10 lbs.

EXTERNAL SHUNTS:
10 amp., $4.50 — 200 amp., $6.00 — 1000 amp., $2.25

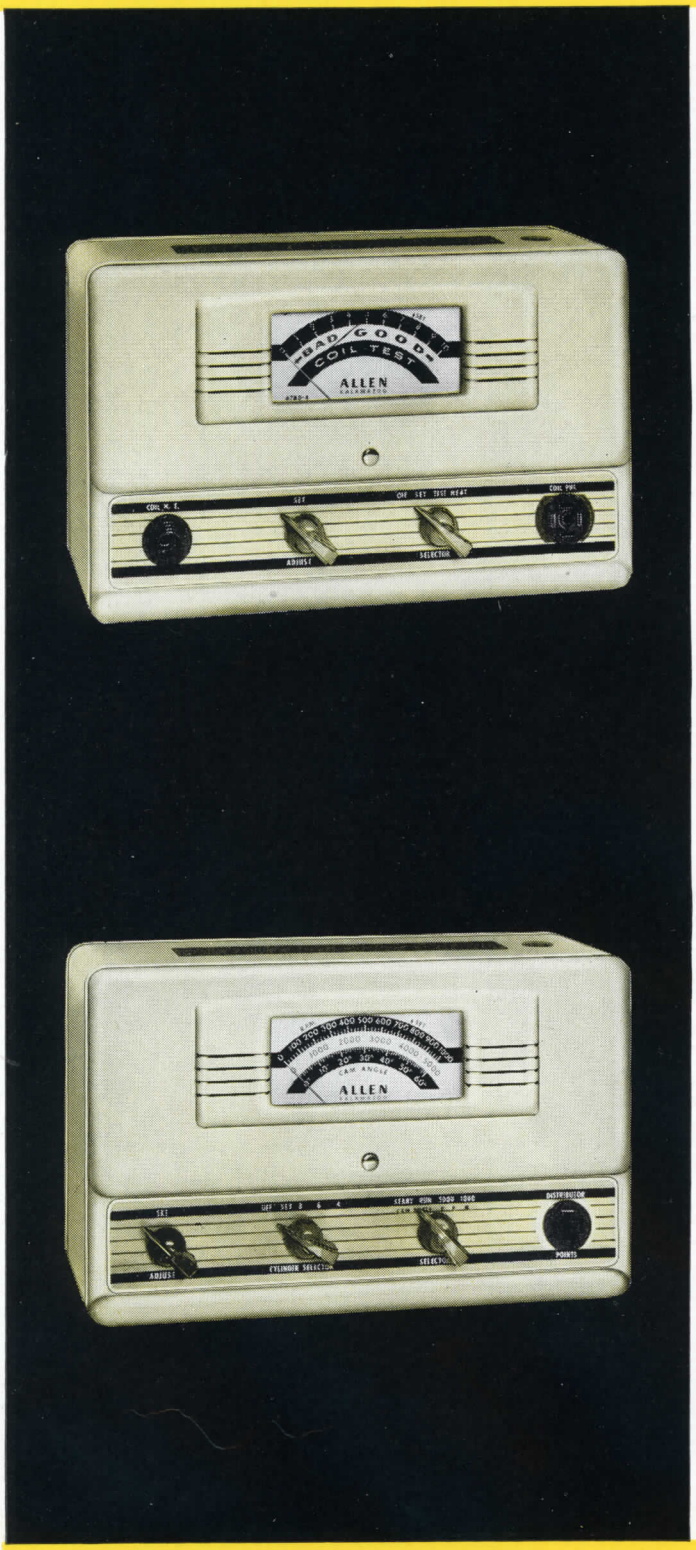


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KALAMAZOO, MICHIGAN

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Form C-105 A, B, AW, B

ALLEN SERVICE and TESTING EQUIPMENT



MODEL E-303
COIL TESTER

Direct reading meter scale is divided into two sections, GOOD and BAD. The meter clearly and accurately shows the condition of the ignition coil. Checks for Output, Open Circuits, Shorted Turns, Insulation Breakdown, Abnormal Core Losses and Grounds. Checks both battery ignition and magneto type coils.

FEATURES

1. Operates from either 6 or 12 volt storage battery — alternating current is not required.
2. Test both 6 and 12 volt ignition coils.
3. Large illuminated meter with moving coil and Alnico magnet. Calibrated to give direct reading of coil condition.
4. Color coded, plug-in type 6 ft. test lead for testing coils On or Off the vehicle.
5. Selector switch provides for making all tests without changing connections.
6. Tests the coil both HOT and COLD.
7. Pop-up carrying handle and swing-out hanger brackets.

Dimensions — 7" high, 11¼" wide, 5" deep. Shipping weight, 10 lbs.

MODEL E-304
DWELL-TACH TESTER

Designed to accurately indicate cam angle at both starter and engine speeds. This makes it possible to adjust breaker points with distributor cap removed while starter is turning engine. Also, checks distributor breaker plate and bearings. Tachometer indicates engine speed for ignition and carburetor adjustments, setting governors and fluid drives.

FEATURES

1. No external power required.
2. Two Engine R.P.M. ranges, 0—1000 and 0—5000 R.P.M.
3. Connection to low tension distributor terminal for both Cam Angle and Engine R.P.M.
4. Color coded, plug-in type 6 ft. test leads.
5. Selector switch provides for making all tests without changing connections.
6. Large illuminated meter with moving coil and Alnico magnet. Calibrated to give direct reading of engine R.P.M. and distributor cam angle.
7. Pop-up carrying handle and swing-out hanger brackets.

Dimensions — 7" high, 11¼ wide, 5" deep. Shipping weight, 11 lbs.

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KALAMAZOO, MICHIGAN

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Form C-105 A, B, AW, BW

ALLEN SERVICE and TESTING EQUIPMENT

MODEL E-305

VACUUM AND FUEL PUMP TESTER

Accurate Vacuum Gauge and Pressure Gauge mounted in one compact portable unit. Tests engine vacuum and shows over-all engine performance. Abnormal vacuum readings indicate inefficiencies such as valve and ring leakage, faulty idle adjustment, improper ignition timing, etc. Makes complete fuel pump test for pressure and capacity.

FEATURES

1. Vacuum Gauge range, 0—25 inches of vacuum.
2. Pressure Gauge range, 0—15 pounds pressure.
3. Universal adapters supplied for all fuel pump and vacuum connections.
4. Large, accurate gauge indirectly illuminated.
5. Pop-up carrying handle and swing-out hanger brackets.

Dimensions — 7" high, 11¼" wide, 5" deep. Ship. Wt., 9 lbs.

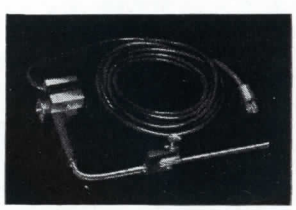
MODEL E-306

COMBUSTION ANALYZER

Quickly determines carburetor efficiency by measuring thermal conductivity of the exhaust gases.

FEATURES

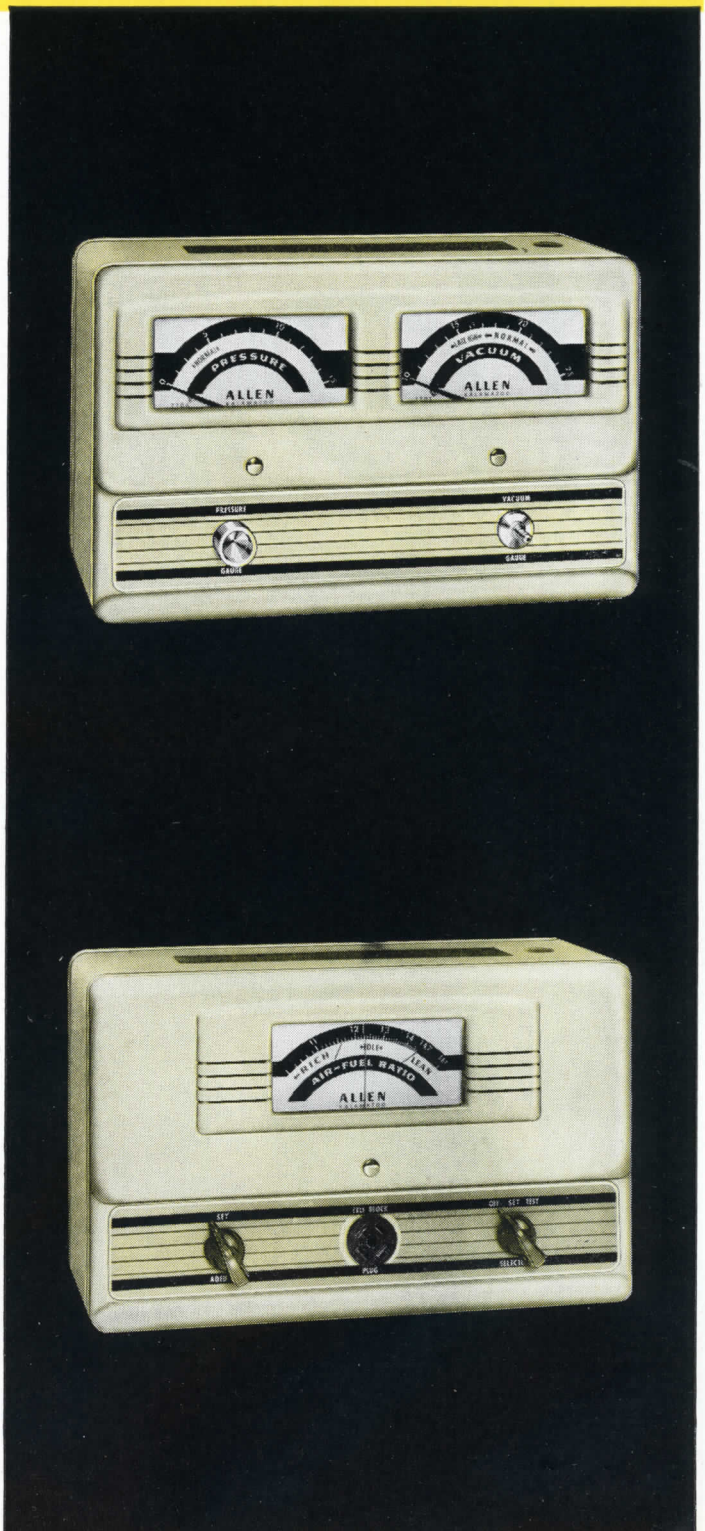
1. Analyzing element in tail pipe assembly connects to testing unit through 20 ft.* electric cable. Eliminates sampling hose and delayed readings.
2. Rugged construction assures accurate performance even under rigors of continuous full load dynamometer operation.
3. Portable for road testing — no external power required.
4. Illuminated, shockproof, jewel bearing meter calibrated in air fuel ratio, also indicates Idle-Rich-Lean.



5. Pop-up carrying handle and swing-out hanger brackets.

Dimensions — 7" high, 11¼" wide, 5" deep. Ship. Wt., 10 lbs.

* Regularly furnished 20' electrical cable may be increased in length by purchasing one or more 10' accessory cables Part No. 7474. Price $8.35 each.



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ALLEN SERVICE and TESTING EQUIPMENT



MODEL E-323
POWER TIMING LAMP

Light is brilliant and intense enough for setting ignition timing in bright sunlight. Synchronized flashes from the power timing lamp illuminate the flywheel and make flywheel timing mark appear stationary. Built-in amplifying circuit greatly increases the normal voltage making light flash much more brilliant than conventional timing lights. Checks Ignition Timing-Synchronization — Automatic Spark Advance — Vacuum Spark Control — General Distributor Condition.

FEATURES

1. Amplified intensity, visible in bright sunlight.
2. Operates from 6 volt storage battery.
3. Attractive and convenient design. Pistol grip handle.
4. Operates with one clip connected to spark plug cable and the two remaining clips connected to the 6 volt battery.

Dimensions — 8½" long, 1¾" dia. Shipping weight, 4 lbs.



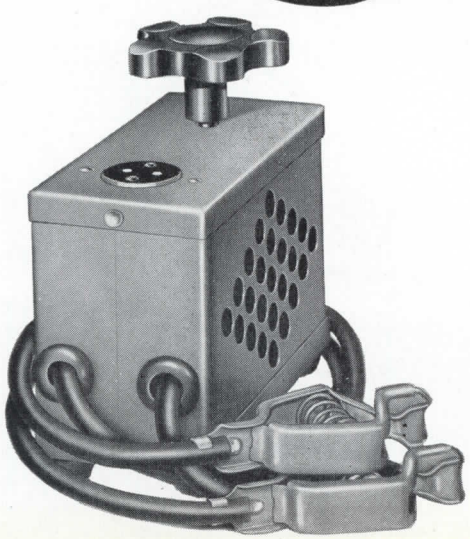
MODEL E-340
COMPRESSION TESTER

For testing individual cylinder compression. Checks condition of Valves and Piston Rings. Locates weak cylinders which cause loss of power. New compact design permits convenient testing of conventional engines, aviation engines and cab-over-engine types.

FEATURES

1. Durable heavy spring clamp for conveniently fastening gauge near the engine.
2. Compression gauge scale range 0—200 lbs. pressure.
3. Attractive 2¾" dia. gauge with oil resisting hose and adapters.
4. Positive action air release valve.
5. Supplied in attractive metal carrying case with hinged cover containing one straight and one angle adapter.

Shipping weight, 6 lbs.



MODEL E-215
STARTER LOAD RHEOSTAT

The Model E-215 Starter Load Rheostat is used in conjunction with the Model E-302 Volt-Amp Tester for checking the current draw of starting motors from the storage battery.

Procedure is to note the battery voltage with the starter turning the engine. Then with the E-215 connected to the battery the carbon pile is tightened until the voltage reading is the same as when using the starter. The ammeter of the Volt-Amp Tester then shows the amperes required by the starter.

The E-215 consists of a 150 ampere carbon pile, 1000 Amp Shunt, control knob and leads with clips for connections to the battery. A two-way socket provides a means for connecting the E-215 Rheostat to the E-302 Volt-Amp Tester. Dimensions — 6½" high, 3" wide, 6" deep. Shipping Wt., 7 lbs.

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Form C-110 A, B, AW, BW
Supersedes C-110 10-1-47

Model E-318 ALLEN MOTOR ANALYZER



Dimensions: 48" High, 28" Wide, 23" Deep
Shipping Weight: 175 lbs.

TESTS

Engine R.P.M.

Battery

Starter

Distributor

Coil

Condenser

Battery Cables

Generator

Cut-out Relay

Ammeter

Voltage and Current Regulator

Voltage Drop in Electrical Circuits

Fuel Pump Pressure, Vacuum and Capacity

Engine Vacuum and Compression

Maximum Performance - Minimum Investment

Designed to perform all essential tests of the battery, generator, and starter as well as the complete starting, lighting, ignition and compression systems. The Allen Model E-318 Motor Analyzer readily fills the needs of all classes of service shops.

Simplified and low cost cabinet construction provides a worth while savings at no sacrifice in overall performance.

Finished in durable Red and Black baked enamel and equipped with 4" swivel type castors with locking brakes, the highly mobile cabinet combines attractive styling with rugged welded steel construction. A storage compartment for test leads and instruction manuals is accessible by lifting the large piano-hinged cover which when closed provides a convenient table. Spring tension securely holds cover in open or closed position.

Unusual stability is maintained by locating the 6-volt battery, which supplies operating power, in the base of the analyzer. **No external power connections are required.**

Instructions & Training

Each purchaser is given personal instructions by a factory-trained representative. Clearly written and well illustrated instruction manuals are supplied covering all phases of operation. Additional copies available at $2.00 each.

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KALAMAZOO, MICHIGAN

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Form C-112 A, AW

Model E-318 ALLEN MOTOR ANALYZER

Accurate Instrumentation for All Essential Tests

Meters

D'Arsonval type with powerful Alnico magnets. Factory sealed against dust and moisture. Scale length 3⅞". Guaranteed accuracy better than 2%.

Leads

Plug-in type for simplicity of operation. Adequate length for "on the vehicle" testing. Color coded to match tester socket.

Condenser Test

Checks both battery ignition and magneto condensers either on or off the vehicle. Tests the condenser for Opens, Shorts, Capacity, Series Resistance and Leakage.

Coil Test

Checks both 6 and 12 volt battery ignition as well as magneto ignition coils, either on or off vehicle. Tests for Output, Open Circuits, Shorted Turns, Insulation Breakdown, Abnormal Core Losses, Grounds, Reversed Polarity.

Coil heater brings coil to operating temperature prior to test.

Ignition Circuit Test

Tests the high tension ignition system for leakage at spark plugs, distributor cap, rotor, and high tension cables by measuring coil output to each spark plug using specially calibrated scale on coil tester meter.

Distributor Test

Accurately indicates cam angle at both starter and engine speeds. This makes it possible to adjust breaker points and check distributor breaker plate and bearings. Cam angle specifications furnished.

Engine R.P.M.

Electric Tachometer indicates engine speed in R.P.M. for ignition and carburetor adjustments, setting governors and fluid drives. Tachometer range: 2 scales, 0-1000 and 0-5000 R.P.M.

Electrical System Test

Accurate Voltmeter and Ammeter for testing all values o. voltage and current in 6, 12 and 24 volt starting, lighting, and ignition systems. Voltmeter Range: 0-1, 0-10, 0-20 and 0-50. Ammeter Range: 0-100 amperes. External shunts optional at extra cost for 10, 200 and 1000 amperes.

Generator Test

Tests all types for voltage and current at definite engine speeds.

Regulator Test

Built-in load resistors with a push button control makes possible the complete testing of all models and makes of regulators without removing the cover. Only two connections are necessary for all regulator tests.

Regulator specifications furnished.

Battery & Starter Test

Individual cells of the battery may be tested in the vehicle using the starter for a load. By using the Allen model E-215 Starter Load Rheostat (available at extra cost), batteries may be tested when removed from the vehicle. The E-215 Starter Load Rheostat is designed to facilitate checking the ampere draw of the starter under load and battery condition. The starter draw can be checked without disconnecting any leads.

Compression Test

The model E-340 Compression Tester is included with the Allen E-318 Motor Analyzer for testing individual cylinder compression. Checks condition of Valves and Piston Rings. Locates weak cylinders which cause loss of power. 2¾" Gauge calibrated 0-200 pounds pressure.

Vacuum & Fuel Pump Test

The model E-345 Vacuum and Fuel Pump Tester is included with the Allen E-318 Motor Analyzer for testing fuel pump pressure and capacity and checking over-all engine performance. The 2½" scale is calibrated 0-30 inches of vacuum for engine testing and 0-7 lbs. pressure for testing the fuel pump.

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KALAMAZOO, MICHIGAN

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Form C-112 A, AW

MODEL E-316 HD

ALLEN

SYNCROGRAPH



Overall Dimensions:
45" high, 36" wide, 23" deep.
Shipping weight, 265 lbs.

INSTRUCTIONS AND TRAINING

Personal instructions by a factory-trained representative are given to original purchaser of the Syncrograph. Return Mailing Card requesting instructional assistance insures prompt service. Also, complete and well illustrated instruction manuals are included with each unit shipped. Additional copies available at $1.00 each.

Smooth and efficient high compression engine performance is greatly influenced by the condition of the distributor which times the vehicle ignition for various load and speed factors. The precision and dependability of this highly important operation can best be accurately checked with the Allen Syncrograph.

To insure maximum power, performance, and gasoline mileage, distributors must be restored to the vehicle manufacturer's specifications. Insure customer satisfaction, shop prestige and increased profits with the Allen Syncrograph which checks the following:

1. Cam angle and firing point of each cam lobe.
2. Centrifugal and vacuumatic advance characteristics.
3. Electrical and mechanical operating characteristics of breaker points.
4. Worn distributor housings and breaker plates.
5. Electrical leakage, series resistance, shorts, grounds, etc.
6. Misaligned shafts and worn bearings.
7. Vacuum chamber leakage.
8. Synchronization.
9. Transmission governors.

ALLEN METHOD OF DISTRIBUTOR TESTING

Breaker point spacing is recorded directly on a specially designed indirectly lighted meter calibrated in degrees of cam angle. A brilliantly edge-lighted plastic indicating arrow revolving within a 360° vernier adjusted protractor ring, stroboscopically plots the actual firing point of each cam lobe. The firing pattern of all makes and types of distributors is reproduced with 100% accuracy under actual operating conditions of varying speeds and vacuum.

Superiority of the Allen method of distributor testing is acknowledged by qualified automotive engineers.

ALLEN *ELECTRIC and EQUIPMENT CO.*
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 10-6-48

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A PRECISION LABORATORY INSTRUMENT *for* COMPLETE DISTRIBUTOR TESTS

CABINET CONSTRUCTION AND APPEARANCE: Ultra modern styling with heavy chrome trim and extruded, anodized, satin finished, aluminum handles.

Welded steel construction with added reinforcing ribs for rigidity. Enclosed, ventilated battery compartment accessible from rear. Removable panel for periodic inspection and lubrication mechanism. Easy operating drawer on telescoping slides which permits full accessibility to drawer space. 4" swivel castors with locking brakes.

FINISH: Two tone, high lustre baked enamel over suitable primer.

ILLUMINATED FIRM NAME SIGN: Purchaser's firm name is engraved on edge-lighted lucite panel. Twenty-three letter spaces are provided. Use self-addressed return card included with Syncrograph to order after delivery. Number 7208 engraved lucite panel furnished no charge to original purchaser. Additional panels $11.95 each.

TRICKLE CHARGER: Built in, maintains Syncrograph battery at full charge.

SPECIFICATION SCROLL: Illuminated scroll, indexed by vehicle make and year, lists complete specifications on all popular models. Over 3000 additional distributor specifications furnished in attractively bound manual.

WORK LIGHT: Small size, with universal clamp for mounting distributor housing. Illuminates distributor mechanism.

DISTRIBUTOR MOUNTING: Spring balanced, chrome plated column with hand wheel at top for controlling height, rigidly supports die-cast, self centering distributor and vacuum unit mounting. Adapter bushings simulate actual engine mounting.

ADAPTERS: Complete set of adapters for all distributors and transmission governors. Improved adapter with quick change clamps, handles all Ford passenger car and truck distributors. Ford simplified timing procedure permits vacuum brake and timing adjustments with distributor rotating under actual operating conditions.

CHUCK: Quick acting, self centering, two jaw, with grease resistant composition inserts for flexibility. Anchored "retriever" chain locates chuck key in convenient position.

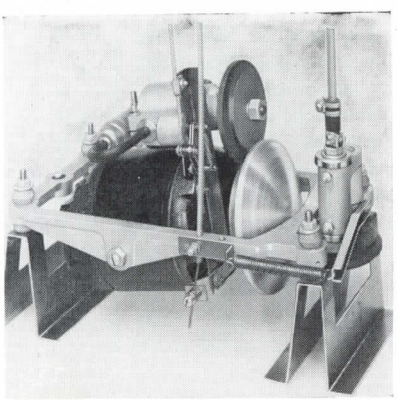
CONTROLS: Conveniently arranged on die-cast test panel. Includes Motor control, Speed control, Syncrograph On and Off control, Vacuum On and Off control, Vacuum Regulator and Vernier Protractor Ring control.

METERS: Indirectly lighted, shockproof, jewel bearings, D'Arsonval type with external zero adjustment, manufactured by Allen to precision standards of 1½% full scale accuracy. Genuine Alnico Five magnet provides maximum damping and high torque. Scale length 3⅞".

Cam Angle range 0 — 60°

Tachometer range 0 — 5000 Engine RPM

VACUUM GAUGE: 3⅛" diameter, aircraft type, diaphragm actuated movement. Pointer travel 600°. Range 0 to 25 inches, calibrated in tenths. External zero adjustment. Precision distributor adjustments in one-half tenth divisions can easily be measured.



VACUUM PUMP AND DRIVE ASSEMBLY

High volume, two cylinder, reciprocating vacuum pump operates from Syncrograph drive motor. Provides ample capacity for testing operation of all vehicle vacuum units such as distributor, speed governors, windshield wipers, vacuum boosters, vacuum horns, vacuum chokes, etc.

Powerful, constant torque, variable speed drive, 180 to 2500 RPM. Powered by reversible ¼ horsepower motor.

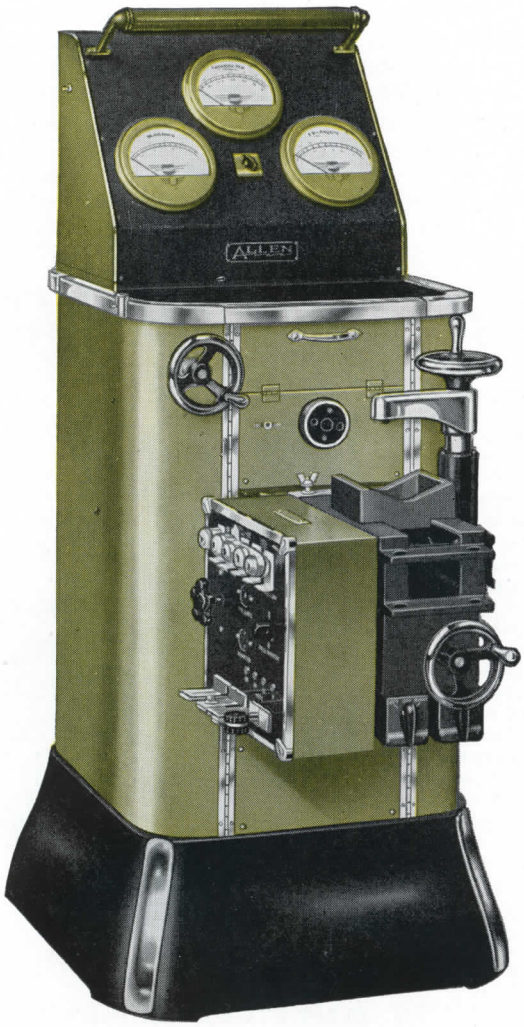
Drive spindle with universal coupling, supported on 4 oilite bearings for long service with minimum maintenance. Large lubricant reservoirs, filled through zerk fittings, provide proper lubrication for long periods. Entire drive unit assembled in heavy, ribbed, cast, rubber mounted frame.

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KALAMAZOO, MICHIGAN

P IN U.S.A. 10-6-48

Form C-115 A, AW
Supercedes C-115 — 2-5-48

ALLEN TEST STANDS



Dimensions: 63" x 43" x 23". Shipping weight, 824 lbs.

THE MODEL E-241 ELECTRICAL LABORATORY

- TESTS STARTERS, MAGNETOS, REGULATORS AND GENERATORS UP TO 1500 WATTS CAPACITY.
- DRIVING SPEED 380 TO 8000 R.P.M.

ADVANTAGES OF THE MODEL E-241

Many makes of test stands use either two or four pole brush shifting type motors. The four pole types are satisfactory at speed ranges below 3000 R.P.M. but are limited to a maximum speed of 3600 R.P.M. Two pole types operate at high speeds but are subject to constant speed fluctuation as the load varies. The Allen method overcomes both of these objections by using constant speed motors operating at full power. The driving speed range is obtained through variable pitch pulleys, so that the generator being driven always receives the full rated power of the motor.

The arrangement of the panel connections permits forming all testing circuits, that is, the fixed and variable loads in series or parallel with eath other, or either one or both in series or parallel with the battery.

Well illustrated instruction books and complete technical information are supplied with the Electrical Laboratory plus personal instruction by factory-trained representatives.

FEATURES

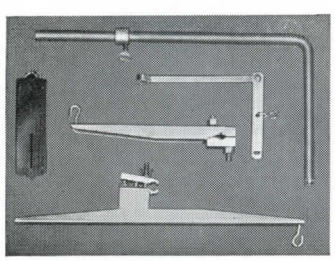
- **Variable Carbon 1000 Watt Capacity Rheostat for Use in Loading Large Generators and in Testing Voltage Regulators.**
- **Field Rheostat for Testing Generators without use of Voltage or Current Regulator. Protected by 5 Ampere Fuse.**
- **Fixed Resistance that absorbs Current from Generator while Testing.**
- **An Adjustable Holder (not shown) for Voltage Regulators. Mounts on table top.**
- **Illuminated Meter Panel with 7 inch Meters and Electric Tachometer. Ammeter ranges 0—10, 0—50, 0—100, 0—1000. Voltmeter ranges 0—10, 0—20, 0—50, 0—100. Tachometer ranges 0—6000 and 0—12000 R.P.M.**
- **Elevating Table Adjustable for all Height Ranges Through Use of Hand Wheel.**
- **Angle Steel Construction with Rubber Mounting for Motor and Meters. Vibrationless. Baked Enamel Finish in two-tone Sand and Cream with Chrome Trim.**

MOTOR SIZE AND SPECIFICATIONS

Two styles of 4 H.P. reversible motors are available.

One style has two fixed speeds, 1150 and 3450 R.P.M., either of which is available at the option of the operator, and the generator driving range is 380 to 8000 R.P.M. It can be furnished only in 220, 440 or 550 volt, 50 or 60 cycle, 3 phase.

The other operates at 1750 R.P.M. only with a generator driving range of 500 to 5500 R.P.M., and can be furnished in 220, 440 or 550 volts, 25, 50 or 60 cycle, 3 phase or 220 volts, 50 or 60 cycle, single phase.



MODEL E-243

Starting Motor Torque Test

(Available at extra cost)

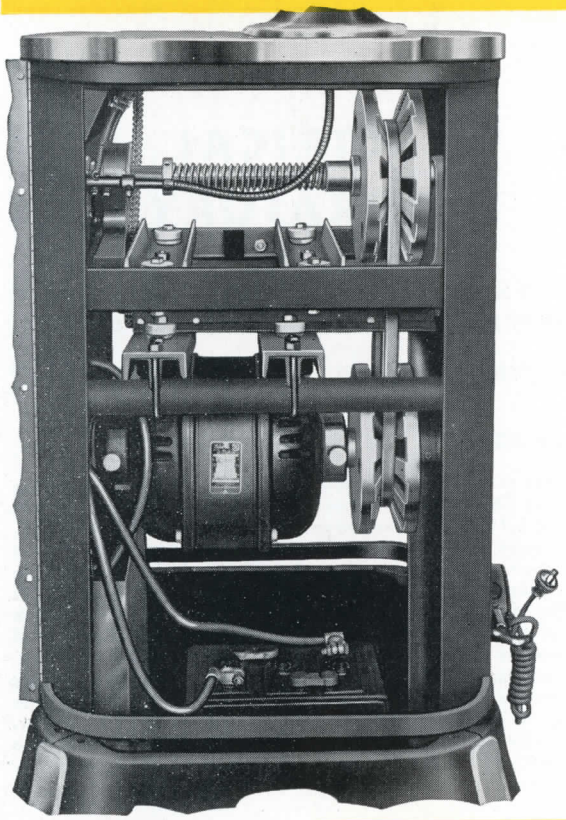
For use with Model E-241 Electrical Laboratory for measuring cranking power of starting motor. Locks the starting motor and measures the torque in foot pounds on spring scale. Available at extra cost. Shipping weight, 14 lbs.

ALLEN ELECTRIC and EQUIPMENT CO.
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 2-5-48

Form C-120 A
Supercedes C-120 — 1

ADVANTAGES OF ALLEN DESIGN



INTERNAL CONSTRUCTION

The view at the left illustrates the heavy angle steel frame construction in which the tapered pulleys are mounted on ball bearings running on accurately ground shafts.

The pulleys are designed to slide one into the other which changes their pitch diameter. The effective diameter of the pulleys is controlled through a hand wheel.

Rubber mountings of the channels on which the motor is hung reduce vibration and noise. The bottom compartment holds up to four 6-volt batteries; the AC connections are made at a junction box on the rear of the E-241.

CONTROL PANEL MECHANISM

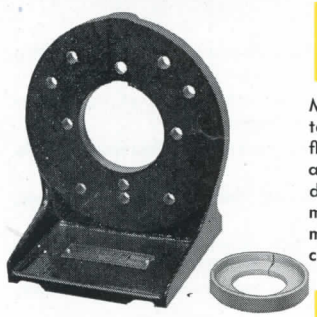
The view at the right illustrates the Control Panel, Raising and Lowering Mechanism, Vee-Block with Magneto Plate, Clamping Arm, Motor Control and Reversing Switches.

Clamping arm is adjustable to any height or position, and securely holds the unit being tested.

The level of the elevating table is adjusted by a hand wheel and has sufficient range for mounting all types and sizes of generators and magnetos.

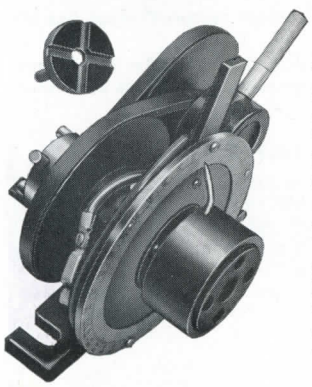
The panel contains all necessary connections for either positive or negative grounded generators of 6, 12, 24 or 32 volts. A carbon pile rheostat is used for testing voltage regulators. A 1000 watt fixed resistance absorbs the generator current. A wire wound field rheostat is furnished for testing generators without having regulator in testing circuit.





MODEL E-244
Magneto Flange Holding Fixture

Mounting holes are provided to support all 2, 3 and 4-bolt flange type magnetos. An adapter ring provides three diameters: 1⅞", 3", 3¼" for magneto pilots of these dimensions. Available at extra cost. Shipping weight, 9 lbs.



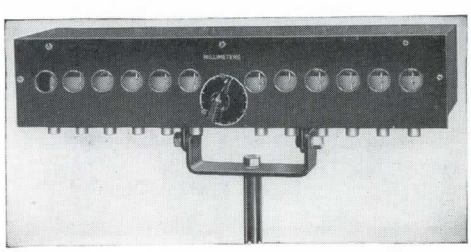
MODEL E-245
Magneto Reduction Drive Fixture

The 10 to 1 reduction drive fixture provides driving speeds as low as 50 R.P.M. for the purpose of checking impulse couplings and magneto cut-in speed. A two dimension slotted and tapered drive adapter is supplied. The 0—360° protractor ring, graduated in both directions, is provided for checking advance mechanism. Available at extra cost. Shipping weight, 16 lbs.

MODEL E-249

TWELVE POINT ADJUSTABLE SPARK GAP

The spark gap assembly mounts at the left hand corner of the E-241 table top directly in the line of vision of the operator. Twelve leads are furnished to connect gap to magneto. Control Gauge graduated 1 to 15 mm indicates gap spacing. Mounting bracket included. Available at extra cost. Shipping weight, 9 lbs.



ALLEN ELECTRIC and EQUIPMENT CO.
KALAMAZOO, MICHIGAN

Form C-120 A, AW
Supercedes C-120 — 10-1-47

ALLEN TEST STAND

TESTS GENERATORS, STARTERS, REGULATORS AND MAGNETOS DRIVING SPEED 350 to 8000 R P.M.

MOTOR — 220 volt, single phase, 50 to 60 cycle. Variable speed from 350 to 8000 R.P.M. in either direction. Will drive all 6 and 12-volt generators up to 550 watts capacity at maximum speed and output.

HOLDING CLAMP — Self-aligning sturdy jaws with ample spread operated by hand wheel. Holds all diameters from 3½″ to 5½″. Clamp can be locked to shafts when alignment is completed.

DRIVE — Allen Straight-line drive. All power of motor available to drive generator. Compression coupling of Allen design will handle round shafts up to 1″ diameter.

REGULATOR MOUNTING BRACKET — (Not shown). Mounts on side bracket and holds regulator in same position as when mounted on vehicle.

FIELD RESISTANCE RHEOSTAT — Permits testing generator to manufacturer's specifications covering output and voltage at specified R.P.M. without having regulator in testing circuit.

LOAD RESISTANCE RHEOSTAT — Permits testing voltage regulators, current regulators, and circuit breakers, without removing cover or changing motor speed. Voltage and current readings taken simultaneously with special cable and two connections.

SELECTOR SWITCHES — Permit selecting circuit and meter scale desired without changing leads.

MODEL E-535 FOR BENCH MOUNTING — Same as Model E-530 except less the Model E-531 Cabinet. Finished in two-tone sand and cream baked enamel with chrome trim. Dimensions 20¼″ high, 27¼″ wide, 17″ deep. Shipping weight, 296 lbs.

INSTRUCTIONS AND TRAINING — Personal instructions by a factory-trained representative are given to each new owner of the Electric Servicer. Also, complete and well illustrated instruction manuals are included with each unit shipped.

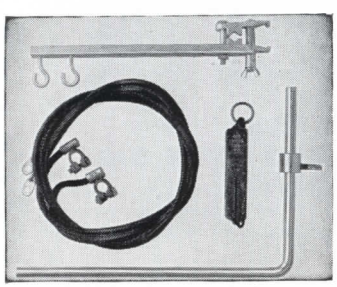
MODEL E-530 (E-535 on E-531 Cabinet)
52½″ high, 30¾″ wide, 20¼″ deep. Shipping weight, E-530, 425 lbs.; E-531, 120 lbs.

MODEL E-530 ELECTRIC SERVICER

For testing passenger car and light truck generators up to 450 watts capacity at 6 or 12 volts. Magneto testing fixtures for all types of magnetos (optional). Ammeter ranges 0-10, 6-0-50, 0-1000. Voltmeter ranges 0-1, 0-10, 0-50. Tachometer ranges 0-4000 and 0-8000 R.P.M. Generator driving speeds from 350 to 8000 R.P.M. either direction. Power requirement: 220 volts 50-60 cycle, single phase.



MODEL E-68 STARTING MOTOR TORQUE TEST



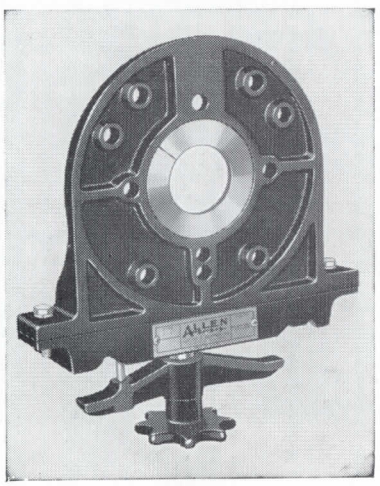
For measuring cranking power of starting motor. Torque in foot pounds noted on scale at end of 12″ arm. Available at extra cost. Shipping weight, 12 lbs.

ALLEN ELECTRIC and EQUIPMENT CO.
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 3-15-48

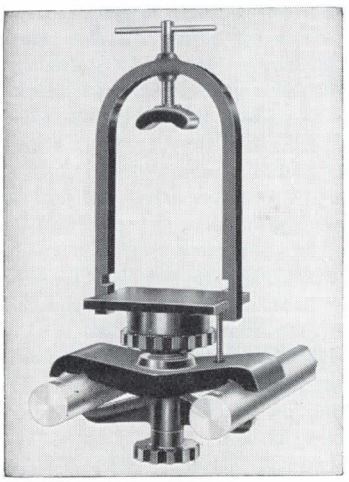
ALLEN TEST STAND

FIXTURES FOR TESTING MAGNETOS



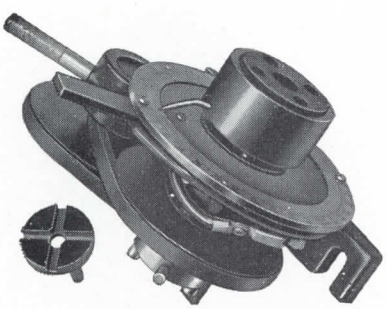
MODEL E-537
MAGNETO FLANGE HOLDING FIXTURE

The E-537 flange drive fixture is a rib reinforced casting with machined bearing surfaces. Mounting holes are provided to support all 2, 3 and 4-bolt flange-type magnetos. An adapter ring provides three diameters: 1⅞", 3", 3¼" for magneto pilots of these dimensions. Available at extra cost. Shipping weight, 12 lbs.



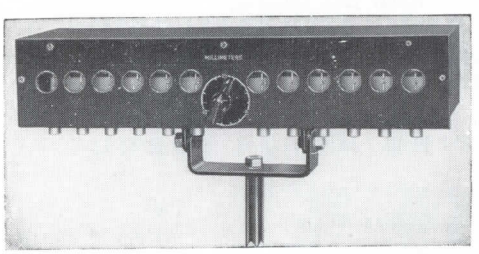
MODEL E-538
MAGNETO HOLDING FIXTURE

Mounts horizontally on round shafts of frame and securely holds all types of magnetos. Elevating and locking nuts are knurled. Action is fast and positive. This fixture is a necessity for all horseshoe type magnetos. Available at extra cost. Shipping weight, 14 lbs.



MODEL E-539
MAGNETO REDUCTION DRIVE

Permits a 10 to 1 reduction for driving magnetos at low speed to check action of impulse couplings. Locking pin permits using either the reduction drive or direct drive from motor, without disconnecting magneto. Belt tightener is simple and sure. 0—360° Protractor Spark Gap for automatic advance. Available at extra cost. Shipping weight, 20 lbs.



MODEL E-540
12-POINT ADJUSTABLE SPARK GAP

Has static points and twelve leads to connect gap to magneto. Control Gauge graduated 1 to 15 mm indicates gap spacing. Mounting bracket included. Available at extra cost. Shipping weight, 11 lbs.

ALLEN *ELECTRIC and EQUIPMENT CO.*
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 3-15-48

Form C-125 A, AW
Supercedes C-125 — 2-5-48

ALLEN

MODEL F-200
FAST CHARGER

FAST • ACCURATE • CONVINCING

Simple To Operate



NEW — ***FIVE SECOND*** Battery Testing

NEW — Weatherproof Construction

NEW — Synchronous Electric Timer

NEW — Hi-Efficiency Transformer

Designed for continuous heavy duty operation in busy service stations and automotive shops, the Allen F-200 Fast Charger was precision engineered, and field tested for a full year before manufacture. Combining beauty and modern styling with rugged compact construction, this sturdy charger has been engineered for years of profitable, trouble free service.

FEATURES

FIVE SECOND BATTERY TEST: Entirely new, Solenoid controlled, ***5 Second Test*** indicates battery condition accurately and dramatically to customer. An unbeatable new battery salesman.

FAST CHARGING: Rotary switch provides selection of 7 fast charging rates with a maximum rate of 100 amperes. At the end of the fast charging period, the F-200 automatically switches to a low or "finishing" rate.

SLOW CHARGING: Timer HOLD position permits charging a line of batteries overnight at a pre-selected slow rate. Thus the owner of an F-200 Allen Fast Charger can keep his stock of batteries in peak condition at all times.

METER: Shockproof, jewel bearings, D'Arsonval type with external zero adjustment, manufactured by Allen to precision standards. Large scale 0 to 100 amperes, also calibrated to clearly indicate battery condition during ***5 Second Test***.

CONTROL PANEL AND COVER: Weatherproof cover with embossed operating instructions, protects meter and controls against rain, snow, dirt, etc. All controls attractively arranged on top panel.

CLOCK: Synchronous electric timer controls period of fast charge. As accurate and dependable as any fine electric clock.

WHEELS: Welded steel with 8" x 2" semi-pneumatic oil resistant tires. Easy to handle on rough surfaces such as cindered drives, etc.

RECTIFIER: Metallic, self-healing rectifier stands overloads and short circuits without damage. Guaranteed unconditionally for one year.

TRANSFORMER: Allen built, with rectangular wire wound under heavy tension directly on iron core for minimum vibration and greater efficiency. After thorough impregnation and baking, a dip coat of hard drying, glossy transformer varnish eliminates any possibility of later moisture damage.

STARTS ENGINE: Plenty of reserve capacity for starting engine, even though vehicle battery is totally dead.

DIMENSIONS: 39" high, 18" wide, 13" deep.

SHIPPING WEIGHT: 120 lbs.

PRICED TO SAVE MONEY

With no sacrifice in quality, style or performance, the unusually low cost is only possible through mass production and wide distribution. You can't buy a finer Fast Charger at any price.

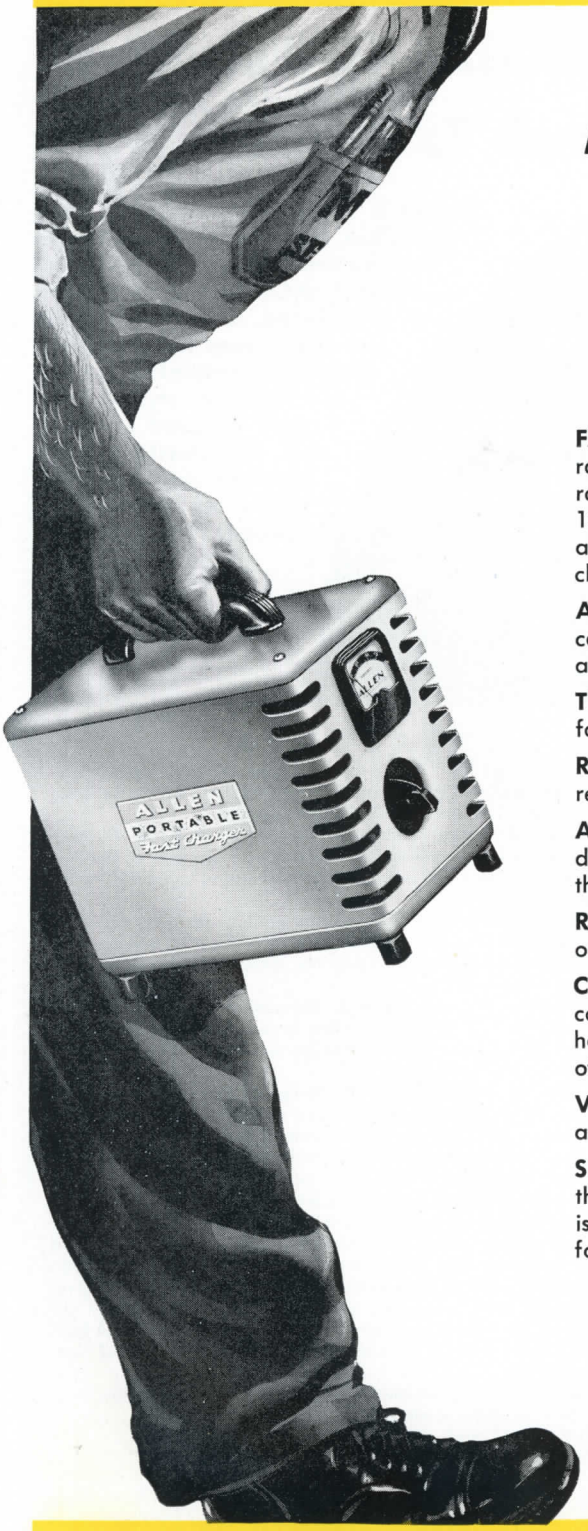
ALLEN ELECTRIC and EQUIPMENT CO.
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 11-10-48

Form C-201 A, B, AW, W
Supercedes C-200 3-15

Model F-52
ALLEN

PORTABLE FAST CHARGER



A COMPACT CHARGER WITH LARGE CHARGER FEATURES

FAST OR SLOW CHARGING — The Allen Model F-52 has six charging rates up to 75 amperes in five steps for fast charging and one 10 ampere rate for slow charging. It will charge a 6-volt battery or three cells of a 12-volt battery quickly and will charge a line of seven batteries at a 10 ampere rate. Will spin a starter for starting vehicle with completely discharged battery.

AMMETER — An accurate ammeter with 0-75 ampere scale in 2½" square case shows the charging rate. Thoroughly sealed and protected from dust and moisture.

TRANSFORMER — Special heavy duty transformer engineered and manufactured by Allen. Designed for continuous duty and economical operation.

RECTIFIER — Oversize magnesium copper sulphide self healing dry disc rectifier. Assures long life and dependability under hardest usage.

ANODIZED CHARGING CLIPS — Allen designed, rubber insulated, heavy duty. High pressure chemically treated copper jaws make firm contact on the battery post.

RUBBER INSULATED CABLES — AC 15 feet long, DC 4½ feet long. Wind on holder.

CASE AND COLOR — Ruggedly constructed sheet steel with rounded corners. Perfectly balanced for ease in carrying. Equipped with carrying handle and brackets for coiling connecting cables. Rubber feet on bottom of case. Beautiful two-tone sand and cream baked enamel finish.

VENTILATION — Ventilating grill with 6 inch motor driven fan provides adequate forced draft ventilation.

SIMPLICITY OF OPERATION — Anyone can use it. All you do is connect the leads and set the control to the desired charging rate. Charging rate is shown on the meter. Set to HIGH rate for fast charging or LOW rate for slow charging.

OVERALL DIMENSIONS: 10" high, 9" wide, 12" deep.

SHIPPING WEIGHT: 41 lbs.

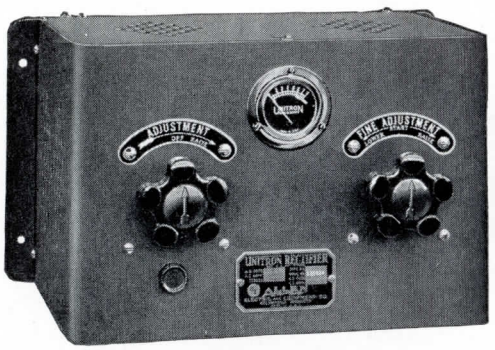
LISTED UNDER REEXAMINATION SERVICE UL OF UNDERWRITERS' LABORATORIES

ALLEN *ELECTRIC and EQUIPMENT CO.*
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 11-10-48

Form C-201 A, B, AW, BW
Supercedes C-200 3-15-48

ALLEN SERVICE and TESTING EQUIPMENT



MODEL E-15

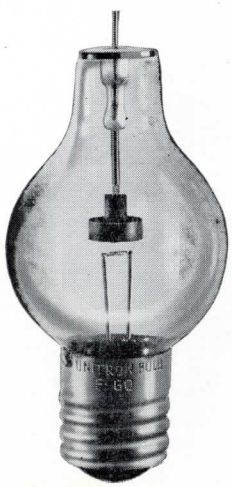
(Underwriters approved)

UNITRON BATTERY CHARGER

6 Amp. Capacity For 12 6-Volt Batteries

1. Unitron Model E-15 will charge twelve 6-volt batteries (or equivalent) at 6 amperes or less.
2. Ventilated bulb socket.
3. Push button type switch lights rectifier bulb.
4. Hinged top panel provides accessibility for inspection and cleaning of working parts.
5. Control of charging rate in fractional amperes. Easy to install and operate.
6. Two molded completely enclosed Bakelite Adjusting Switches control charge rate. One for coarse control and the other for fine.
7. Accurate Ammeter. One Unitron Bulb supplied.
8. Well ventilated Metal Case. Designed for wall or bench mounting.
9. E-15 operates from 115 volts, 50 or 60 cycles. Specify when ordering. (See E-1 and E-6 for 220 volts.)
10. Underwriter approved.

Dimensions — 13" x 9" x 9⅜" deep. Shipping weight, 38 lbs.



ALLEN UNITRON BULB

For All Makes and Types of Bulb Chargers

TYPE F-60

1. Guaranteed 1,200 hours.
2. Six ampere capacity. Replaces Tungar No. 189049, and Rectigon No. 289416.
3. Nonex glass. Very strong.
4. Tungsten filament welded to tungsten support posts.
5. Graphite anode threaded to nickel anode lead.
6. Brass base, nickel plated.
7. Filament lead, arc welded to base.
8. Aged before final inspection.
9. Packed individually and packaged in lots of 12 and 24. Shipping weight, lots of 12 — 19 lbs.; lots of 24 — 40 lbs.



MODEL E-2

UNITRON BATTERY CHARGER

6 Amp. Capacity For 24 6-Volt Batteries
12 Amp. Capacity For 12 6-Volt Batteries

1. Unitron Model E-2 has unusual flexibility. One side can be used separately to charge up to twelve 6-volt batteries (or equivalent) at a 6 ampere rate or less. Both sides can be used to charge up to twenty-four 6-volt batteries (or equivalent) at a 6 ampere rate or less. One line of batteries can be connected to the charger so that the batteries receive the current from both bulbs.
2. Large, efficient, ruggedly built Transformer. Center and outer laminations interwoven. Transformer coil wound with rectangular wire.
3. Large Reactance Coils make charging rate steady and lowers transformer heat. Efficiency 86%.
4. Two accurate 0 to 8 Ammeters. Two Unitron bulbs supplied.
5. Four control switches enclosed in bakelite. Positive action, assured contact and easy to operate. Lower controls contain AC switches.
6. Perforated Metal Case. Hinged door at top. For wall or bench mounting.
7. E-2 operates from 115 volts, 50 or 60 cycles; 115 volts, 25, 30, or 40 cycles. Specify when ordering. (See E-2A for 220 volts).

Dimensions — 15" x 15" x 13". Shipping weight, 82 lbs.

UNITRON BATTERY CHARGERS

MODELS E-1, E-2A and E-6 for 220 Volts, 50 or 60 Cycles Only

1. Battery capacity of E-1 is 12; E-6 is 6, and E-2A is 24 at 6 amperes and 12 at 12 amperes.
2. The E-1, E-2A and E-6 models are equipped with reactance coils and with insulated type double wound transformers.
3. The case of the E-1 and E-6 is same size as E-15, and the E-2A is same as E-2.
4. These 220 volt chargers have AC switches built in the controls.

There is one control on the E-6, two on the E-1 and four on the E-2A. Other than explained above these models are the same as the E-2 and E-15.

Shipping weight: E-6 and E-1, 48 lbs.; E-2A, 112 lbs.

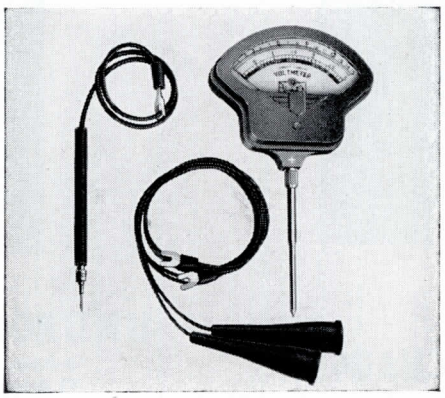
ALLEN ***ELECTRIC and EQUIPMENT CO.***
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 1-1-48

Form C-210 A ? AW. 8W
Supercedes C [illegible] 10-1-47

ALLEN SERVICE and TESTING EQUIPMENT

MODEL F-8
ALLEN DUAL RANGE VOLTMETER



The Allen Dual Range Voltmeter is designed to meet the requirements of an all-purpose instrument for checking batteries, wiring, voltage regulators and voltage drop in all circuits.

FEATURES — 3¾″ Moving Coil Meter in Bakelite Case. Meter Scale Calibrated 0—3 volts in tenths, and 0—15 volts in two tenths.
Button at rear of case protects 3-volt range. Prods, leads and clips supplied as illustrated. Instructions include circuit diagrams. Packed in a Metal Box. Shipping weight, 5 pounds.

MODEL E-51C

CELL TESTER

The model E-51C is equipped with a 2″ meter having a specially calibrated dial to show battery cell condition under load. The individual cell condition is shown on a direct reading scale. The scale is marked to show whether the cell is DEAD, DISCHARGED, or CHARGED together with actual voltage.

Meter scale is calibrated from 0 to 2.5 volts in .2 volt divisions. Shipping weight, 2 pounds.



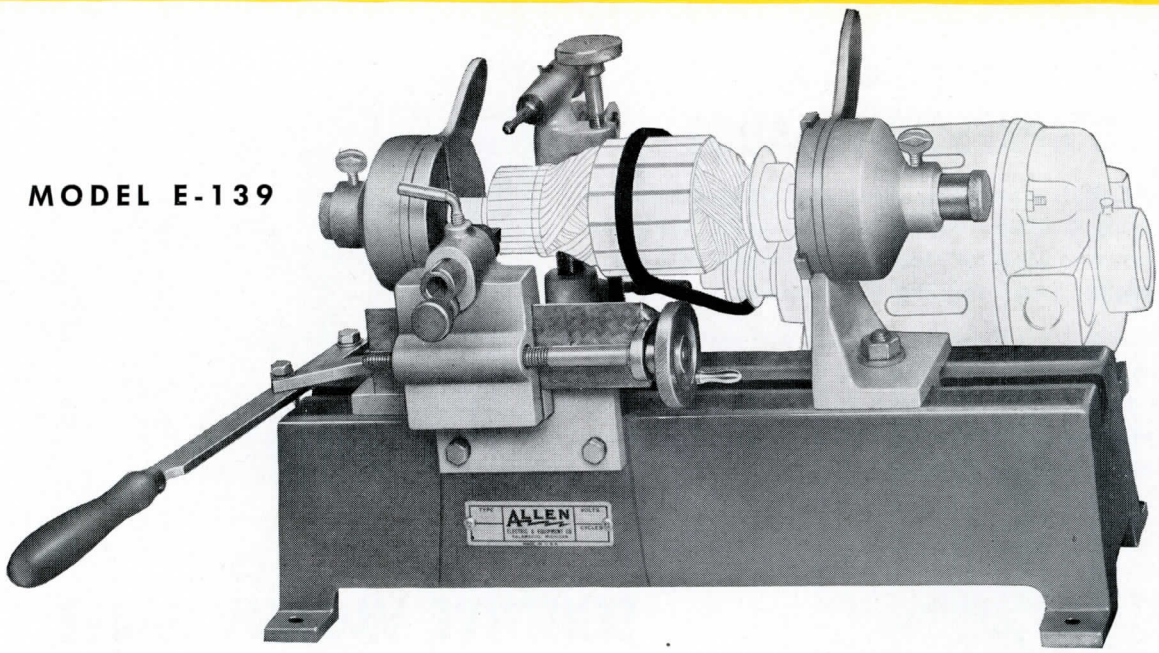
ALLEN *ELECTRIC and EQUIPMENT CO.*
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 1-1-48

Form C-210 A, B, AW, BW
Supersedes C-210 10-1-47

ALLEN SERVICE and TESTING EQUIPMENT

MODEL E-139



Mirro-Cut Armature Lathe and Undercutter

- **Build shop prestige and customer satisfaction with top quality generator and starter overhauls.**
- **Eliminate premature failure from brush lift, arcing and current drop at high speeds.**
- **Stop rapid brush wear from commutator roughness.**
- **Insure the reputation of your shop with long-life generator overhauls.**

The Allen Mirro-Cut Armature Lathe and Undercutter turns commutators to a mirror-like finish, absolutely true with the bearings. Built on the same mechanical principles as fine production machine tools.

CAPACITY: Handles armatures up to 7″ in diameter with maximum over-all length of 16″, and with shaft diameters from 7/16″ to 7/8″.

LATHE BED: Heavy ribbed construction. Length 17½″. Adjustable motor base, hinged to rear of bed, insures correct belt tension and alignment.

CARRIAGE BAR: Solidly bolted to bed and reinforced to eliminate chatter or roughness at tool carriage.

TOOL CARRIAGE: Dove-tail fit to carriage bar. Self-adjusting take-up maintains perfect adjustment — never too tight, never too loose. Tool cut is regulated with finely threaded feed controlled with knurled knob. Carriage travel controlled with conveniently accessible hand wheel.

TOOL: Standard 5/16″ bit properly ground for copper commutators.

CHUCKS: Quick adjusting, with replaceable, self-centering, non-scoring jaws in which the armature bearings run. *Turning the commutator on its own bearing surface is the only way to insure a job without run out.* Adjustable thrust bearings eliminate all armature end play.

UNDERCUTTER: Mounted on separate carriage aligned with lathe bed to assure straight line cut. Positive action feed lever provides vernier control of horizontal saw movement. Micro-adjustment controls depth of cut.

Tool steel spindle rotates on long bearings lubricated through oil cup. A .020″ saw is furnished as standard equipment.

EXTRA SAWS: Replacement saws available at $2.80 per dozen, in .015″, .020″, .025″, .030″ and .035″. Specify sizes when ordering.

FINISH: Two tone baked enamel over suitable primer with cadmium plated trim. Damanskeen finish on machined surfaces.

ACCESSORIES: E-139 supplied complete with standard V-belt, tool wrench, and motor pulley.

MOTOR: Not furnished. 1/6 or 1/4 horsepower required.

DIMENSIONS: 18½″ x 10″ x 9″.

SHIPPING WEIGHT: 56 pounds.

ALLEN ***ELECTRIC and EQUIPMENT CO.***
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 12-1-48

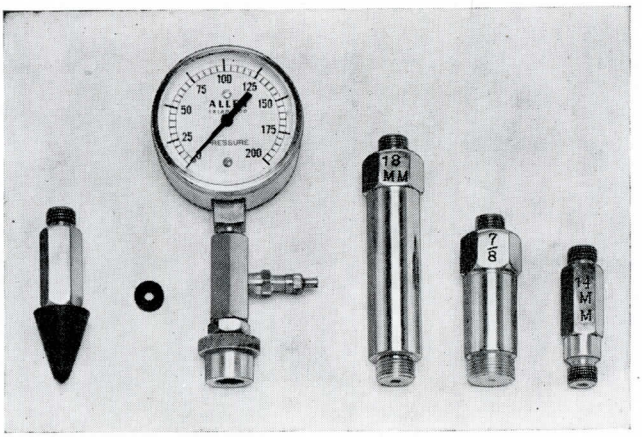
Form C-211, A, AW, B, BW

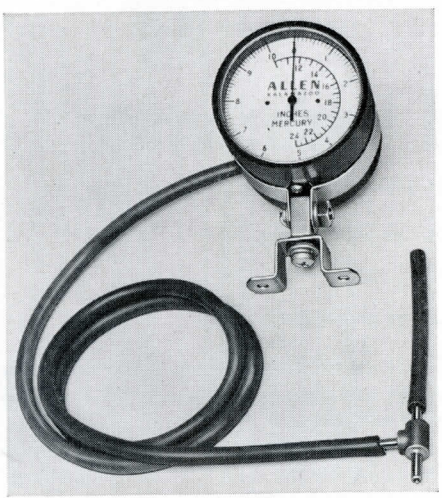
ALLEN SERVICE and TESTING EQUIPMENT

MODEL G-13
COMPRESSION GAUGE

The model G-13 is a precision, heavy duty gauge designed to check individual cylinder compression on tractor, truck, and bus engines. Also ideal for checking compression of 1 and 2 cylinder engines where exacting measurements are required.

The Model G-13 is furnished complete with metal box and screw type spark plug port adapters to fit ⅞", 18mm, and 14mm. A tapered rubber adapter is also furnished for use on ports that are conveniently accessible. Gauge is calibrated 0 - 200 pounds pressure. Shipping Wt. 6 lbs.





MODEL G-17
SENSITIVE VACUUM GAUGE

A marked departure from conventional vacuum gauge design has been made in developing the G-17 Sensitive Vacuum Gauge for distributor testers. When used with any make of distributor tester, all distributors including late model *Ford, Mercury and Lincoln* vacuum actuated distributors can be easily adjusted for maximum performance.

The G-17 gauge is built around the structural design of an aneroid barometer. Vacuum changes in increments of one-half tenth inches of mercury over a 600° scale can be accurately measured. Thus it is possible to effect distributor adjustments in the fractional vacuum settings as listed in the manufacturers' specifications.

Supplied with a chrome plated universal mounting bracket, for mounting on vertical, horizontal, or inclined cabinet surfaces. Necessary tubing, fittings, etc., are included.

ACCURACY: Structural design provides extreme accuracy essential for testing vacuum actuated distributors.

RANGE: 0-10 and 0-25 inches of mercury. Calibrated in increments of one tenth, over a 600° scale.

ZERO ADJUSTMENT: Front panel zero adjusting screw compensates gauge for temperature changes.

VERSATILITY: Adaptable to any make of distributor tester that is equipped with a source of vacuum.

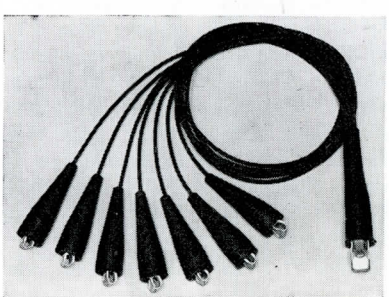
SHIPPING WEIGHT: 2 pounds.

MODEL E-165
GROUNDING LEADS

An invaluable accessory when used in conjunction with a motor analyzer. Assists in carburetor adjustments and in isolating weak cylinders.

Consists of seven lengths of insulated wire joined to one common ground. All test clips covered with pliable insulating socks.

Shipping Weight: 2 lbs.



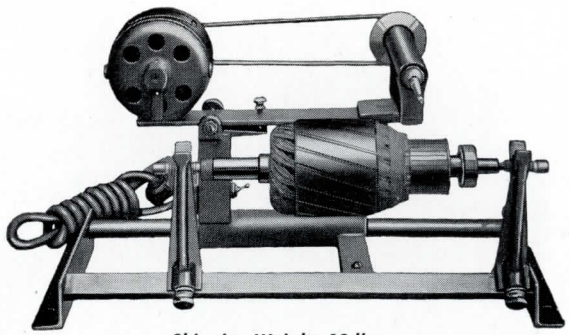
ALLEN ELECTRIC and EQUIPMENT CO.
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 12-1-48

Form C-211, A, AW, B, BW

ALLEN SERVICE and TESTING EQUIPMENT

MODEL E-109
MICA UNDERCUTTER

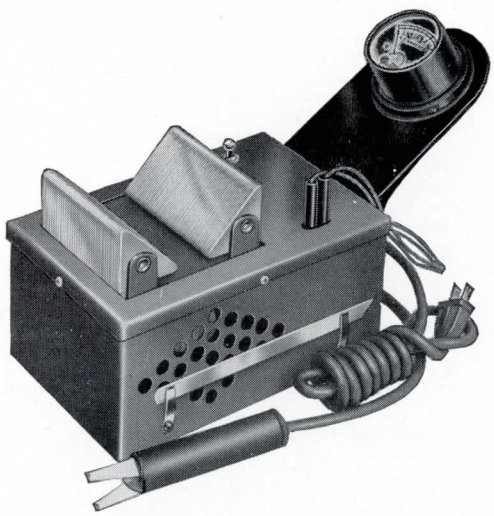


Shipping Weight, 13 lbs.

Accommodates armatures to 11" (shaft length) between centers. Large armatures and centerless type mount in "V" ways. Adjustable stops control length and depth of cut.

Motor 115 or 220 volts A.C. or D.C. Speed, 10,000 R.P.M. Spindle speed, 5,000 R.P.M. Specify voltage when ordering. Furnished complete with ten saws, two of each of the following thicknesses, .015", .020", .025", .030" and .035". All are ¼" in diameter. Replacement saws available at $2.80 per dozen. Specify sizes when ordering.

MODEL E-32
ARMATURE GROWLER

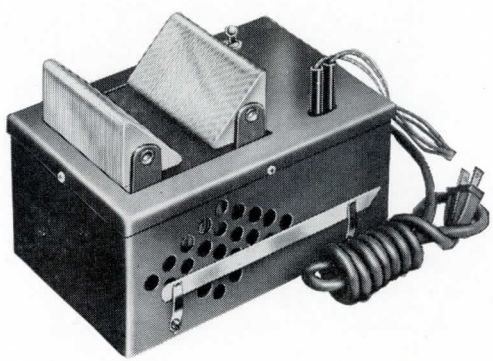


Tests all types of armatures for all troubles, including opens, shorts, grounds, incorrect number of turns and reversed connections. Test light with prods serves as pilot lamp when growler is on and also indicates grounds. It is equipped with meter and meter test prods for testing armature coils for incorrect number of turns and reversed connections. Tests all sizes of armatures fom 1⅛" in diameter to the largest units. Smaller diameters can be tested by the use of shims. Jaw opening is 1⅛" at bottom and 4½" at top. Jaw surface is 2½" x 4".

Operates from 115 volts, 50-60 cycles. Also available for 115 volts, 25-30-40 cycles and 220 volts, 50-60 cycles. Specify voltage and cycles when ordering.

Dimensions: 6" x 14½" x 8¾". Shipping weight, 24 lbs.

MODEL E-30
ARMATURE GROWLER



The Model E-30 is the same in construction as the Model E-32 except that it is smaller in size and does not have the meter bracket, meter, or meter testing blade.

The width of the "V" gap is 2½" and the opening is 1⅛" x 4½". The case, 115 volt A.C. test light prods, lamp cord and switch are same as the E-32, but the laminations, core and winding are smaller.

Operates from 115 volts, 50-60 cycles. Also available for 115 volts, 25-30-40 cycles and 220 volts, 50-60 cycles. Specify voltage and cycles when ordering. Dimensions: 6⅜" x 6" x 9". Shipping Weight, 15 lbs.

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KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 1-20-48

Form C-215 A, B, AW, BW
Supercedes C-215 10-1-47

ALLEN MAGNETIZERS



Attractive styling and utility are combined to provide a compact unit for quick and easy magneto service.

Dimensions: 16½" x 9¾" x 9½". Shipping weight, 103 lbs.

MODEL E-161

MAGNETO MAGNETIZER

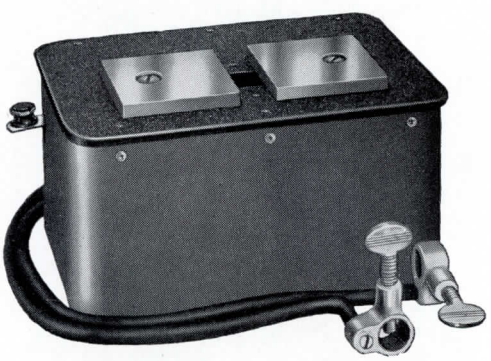
(Operates from Alternating Current)

- **NO BATTERIES REQUIRED, OPERATES FROM 115 VOLTS A. C.**
- **COMPLETELY SATURATES ALL MAGNETIC MATERIALS**
- **COMPACT AND ATTRACTIVE APPEARANCE**

The Model E-161 Magneto Magnetizer *completely* saturates all magnetic materials including Alnico. A built-in 115 volt A.C. power supply with a dry disc rectifier insures an exceptionally powerful magnetic field for charging all types of magneto magnets to original standards.

Six charging blocks are supplied to permit charging of two and four pole rotor magnets as well as horseshoe magnets. Magnets of flat base magnetos may be charged without dismantling. Construction permits the use of special charging blocks for aircraft magnetos. Special charging blocks Model E-162 are available at extra cost for use in charging flywheel magnets. Charging blocks for special magnetos other than listed above can be obtained from the magneto manufacturers.

115 volt A.C. operation eliminates the inconvenience of storage batteries and greatly increases the power of the Magnetizer.



Operates from 6 volt battery, or 115 volts or 220 volts D.C. Specify voltage when ordering. Will not operate from A.C.

Dimensions: 10" x 6⅝" x 5½". Shipping weight, 59 lbs.

MODEL E-36

MAGNETO MAGNETIZER

(Operates from Direct Current)

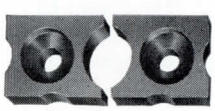
Completely saturates both horseshoe and rotor type magnets.

Arc welded beads, ground flush with core stack, assure a permanently tight assembly eliminating vibration.

6 volt battery operation. Magnets of flat base magnetos may be charged without dismantling. Model E-87 Charging Blocks are supplied as standard equipment to charge two pole rotor type magnetos. Charging blocks for special magnetos other than listed above can be obtained from the magneto manufacturers.

MODEL E-87

SPECIAL CHARGING BLOCKS



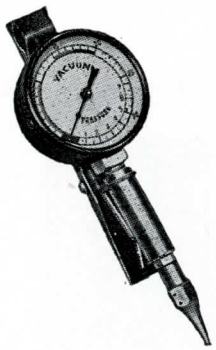
Model E-87 Charging Blocks supplied with Model E-36 Magneto Magnetizer. Shipping weight, 5 lbs.

ALLEN *ELECTRIC and EQUIPMENT CO.*
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 1-20-48

Form C-215 A, B, AW, BW
Supercedes C-215 10-1-47

ALLEN SERVICE and TESTING EQUIPMENT



MODEL E-345

VACUUM AND FUEL PUMP TESTER

A durable instrument to show over-all engine performance and fuel pump pressure under operating conditions. The 2½" scale is calibrated 0—30 inches of vacuum and 0—7 lbs. pressure. Spring clamp is provided for conveniently fastening gauge near the engine. Supplied in attractive metal carrying case with hinged cover. Universal adapters are supplied for all fuel pump and vacuum connections.

Shipping weight, 5 lbs.



MODEL E-23

TIMING LIGHT

Gives a sharp brilliant flash for setting the ignition timing and checking the governor, distributor shaft and cam action.

An Allen Power Timing Light, Model E-323, of greatly amplified intensity is also available. Dimensions: 5½" long, 1" diameter, cables 4' long. Shipping weight, 2 lbs.

MODEL E-175

COIL, CONDENSER and CIRCUIT TESTER



An electrical tester for checking magneto or battery ignition condenser for Breakdown, Opens, Shorts, and Leakage. Neon glow lamp indicates condenser condition.

Calibrated spark gap and neon tube is employed to test spark plugs, high tension cables, rotors and caps. 500 volt power pack produces sharp snap or crackle at point of trouble in vehicle wiring.

Vibrator in unit performs the function of an interrupter for testing coils or windings ON or OFF vehicle.

Operates from the 6-volt storage battery. Selector switch permits testing condensers at 100, 200 or 500 volts. Has switch position for heating coil windings.

FEATURES

1. **Adjustable spark gap—calibrated in millimeters.**
2. **Neon glow lamp — for spark plug testing.**
3. **Power pack — furnishes up to 500 volts D.C.**
4. **Condensers tested at 100, 200, or 500 volts.**
5. **Coil heat test for testing coils under operating conditions.**
6. **Locates shorts or leakage in vehicle wiring.**
7. **Pop-up carrying handle and swing-out hanger brackets.**

Dimensions: 7"x11¼"x5". Shipping weight, 12 lbs.

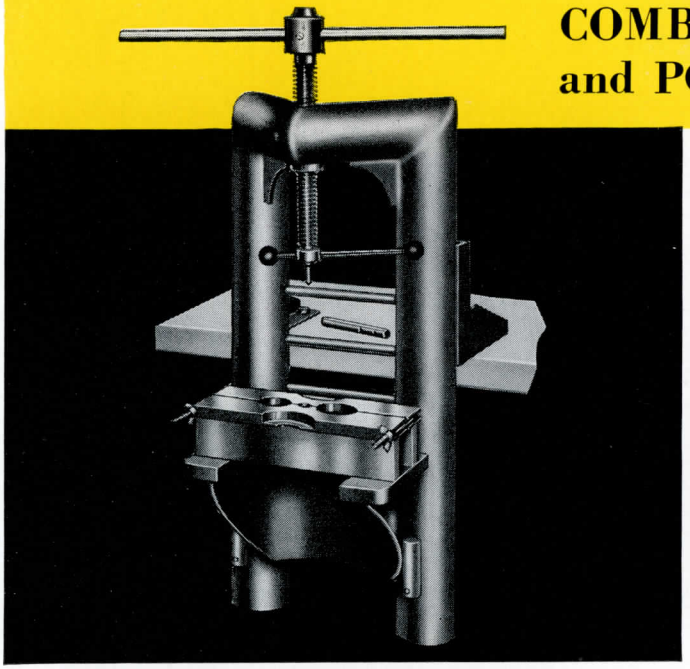
ALLEN ***ELECTRIC and EQUIPMENT CO.***
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 1-20-48

Form C-220 A. B. AW. BW
Supercedes C-220 10-1-47

MODEL P-5

COMBINATION PULLER PRESS and POLE SHOE SCREWDRIVER



MODEL P-5 — A heavy duty unit designed for removing and replacing armature shafts, bearings, bushings, gears, inner races, Bendix drives, slip rings, end caps, and pole shoe screws. Complete with Model P-10 Pole Shoe Screwdriver and Model P-58 Puller Plates.

MODEL P-5B PULLER PLATES — Overall size of puller plates 5" x 12" x 3/4". Four openings in plate taper to a thin edge. Plate may be purchased separately.

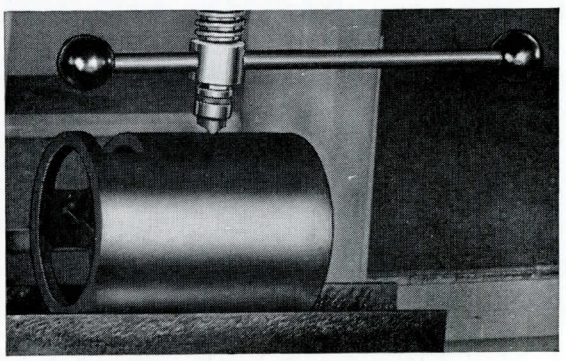
MODEL P-10 POLE SHOE SCREWDRIVER — Pole shoe screwdriver uses conventional screwdriver bits. Supplied with two bits; one for the 1/4" square screws and one for the slotted screws. Securely tightens or easily removes pole shoe screws. May be purchased separately for accessory to prior production Model P-5 users.

FEATURES — Pole shoe screw driver uses conventional screwdriver bits. Securely tightens or easily removes pole shoe screws. Screwdriver attachment Model P-10 may be purchased separately.

Exerts pressure as high as 5 tons without damage to press. The tubular construction is much stronger than castings.

Tremendous pressure for both pulling and pushing.

Diameters accommodated are: 11½" above table, 7" in table; 10" below table.



Heavy 3½" diameter, 5/16" thick steel pipe construction for maximum strength. Stronger than castings. Arc welded at all points for absolute rigidity.

1½" diameter screw with Acme thread to safeguard against stripping. Handle can be extended on either side for additional power.

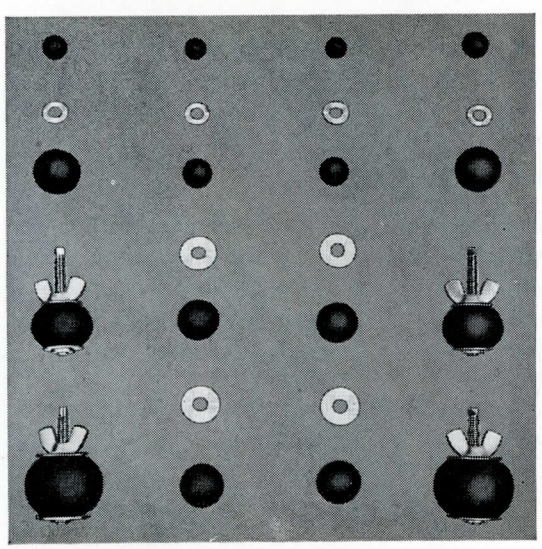
Two drift pins supplied. One 5/8" diameter, 5¼" long and one 3/8" diameter, 3¾" long. Drift pin holder prevents drift pin turning with screw.

Puller plate table constructed of 3/4" thick hardened steel plate 12" wide and 10¾" deep with arc welded reinforced skirt 5/16" thick and 7" high.

Dimensions — 14⅛" wide, 18½" deep, 42" high (screw extended), height above bench 26¾". Depth from bench space 11".

Shipping weight: P-5, 137 lbs.; P-10, 8 lbs.

RADIATOR TEST PLUG SET



MODELS H-5, H-6 and H-9

FOR STOPPING OUTLETS AND INLETS WHEN TESTING RADIATORS FOR AIR LEAKS

MODEL H-5 (ILLUSTRATED) — This set will test all radiators. It consists of sixteen India rubber plugs two each of the following sizes: 7/8", 1", 1⅛", 1¾", 2" and 2½", and four 1½" plugs. The plugs have a hole running through center, through which the stems are inserted with a washer at each end. Sixteen washers and four wing nuts are supplied. Shipping weight, 4 lbs.

H-6 CHEVROLET SET — Consists of six plugs, two each, sizes 1", 1⅛", and 1½"; two stems, four washers, and two wing nuts. Shipping weight, 2 lbs.

H-9 UNIVERSAL FORD SET — Consists of four 1½", one 1¾" and four 1⅛" plugs, four stems, ten washers, and four wing nuts. Shipping weight, 2 lbs.

HOW TEST PLUGS ARE USED — In order to locate leaks in the core or tanks of a radiator, it is necessary to fill the radiator with air and immerse it in a tank of water. If the radiator leaks, the air will escape and will form bubbles which can be seen. The outlets of the radiator must, of course, be plugged.

The Allen soft India rubber balls fit the radiator outlets, and by turning the wing nuts, the balls are pressed firmly against the inside of the outlets, effectively sealing them.

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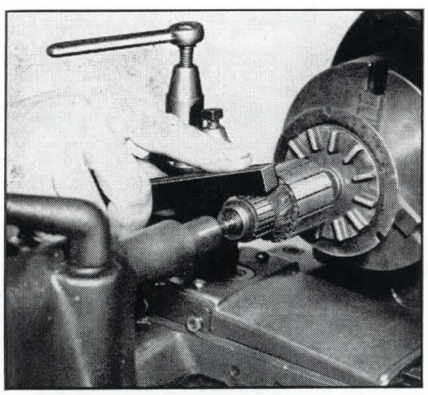
PRINTED IN U.S.A. 1-20-48

Form C-220 A, B, AW, BW
Supercedes C-220 10-1-47

NECESSITIES for ELECTRICAL SERVICE

A thorough service job on a starting motor or generator is not complete without re-working the commutator, seating the brushes, and adjusting the spring tension of the brushes.

The Allen Model 40 Commutator Polishing Stone is used to impart a final mirror-like polish to the commutator after turning down on a lathe. Also may be used to remove gum and dirt from the commutator if starter or generator is not dis-assembled. Accurate seating of new brushes can then be accomplished by using the Model 39 Generator Brush Seating Stone. The Model G-16 Spring Tension Gauge is used to accurately adjust the correct spring tension of the starter and generator brushes — insures peak performance and long life.



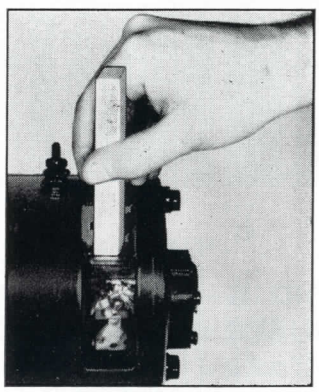
MODEL 40

COMMUTATOR POLISHING STONES

The Allen Commutator Polishing Stone imparts a mirror-like polish to the commutator after turning on a lathe. Also excellent for removing gum and dirt by moving it back and forth across the commutator while the generator is in operation.

Appearance is similar to the Generator Brush Seating Stone. The abrasive material is tough, pliable, and long wearing. Abrasive grain bonded in high quality rubber prevents breakage.

Wholesaler Standard Package — 36 stones. Packaged in an attractive merchandising display carton. Shipping wt., 5 lbs.



MODEL 39

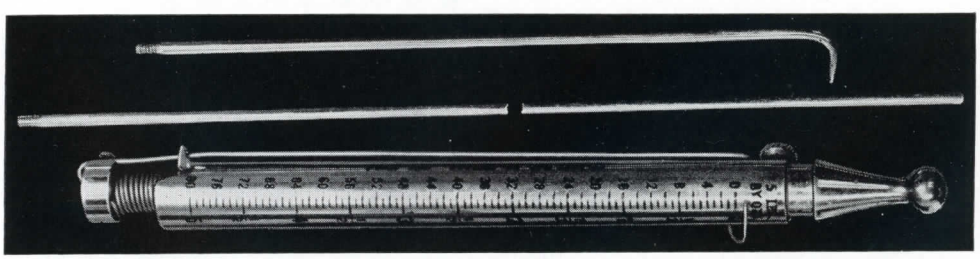
GENERATOR BRUSH SEATING STONES

New brushes should be seated to assure good contact with the commutator. The Allen Brush Seating Stone illustrated above is a convenient tool for seating brushes. When held against a revolving commutator the soft abrasive stone disintegrates so that particles are carried under the brushes and wear their contacting faces to the contour of the commutator in a few seconds.

Wholesaler Standard Package — 36 stones. Packaged in an attractive merchandising display carton. Shipping wt., 6 lbs.

MODEL G-16

SPRING TENSION GAUGES



Accurately measures the spring tension of starter and generator brushes, and breaker point contact arm tension. Accurate spring tension is necessary for the proper operation of brushes and contact points.

Weak brush spring tension causes a low or fluctuating output of generators and low starter draw. Stiff brush spring tension causes rapid wear of commutators and brushes.

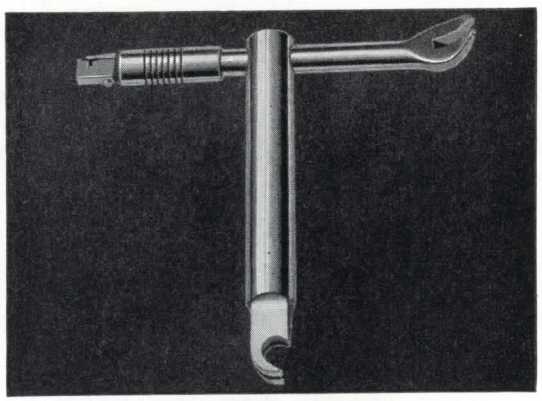
Weak spring tension at the breaker points causes the breaker points to chatter. Has a 5 lb. scale, graduated in 1 oz. steps. Diameter is ⅝″. Length overall is 13″. Has both a hook and a rod for either a push or pull test. Shipping weight, 1 lb.

ALLEN ***ELECTRIC and EQUIPMENT CO.***
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 3-15-48

Form C-225 A. W
Supercedes C-225

NECESSITIES for ELECTRICAL SERVICE



MODEL 37

TOOL AND GAUGE PACKAGE FOR ADJUSTING REGULATORS

The Model 37 Tool and Gauge Package is designed for setting both the air gap and point spacing of all types of voltage and current regulators. It consists of six wire gauges, four feeler gauges and one bending tool. Gauge sizes furnished: Round type .057 — .063 — .070 — .075 — .080 — .087 Flat type .008 — .010 and .015 — .020.

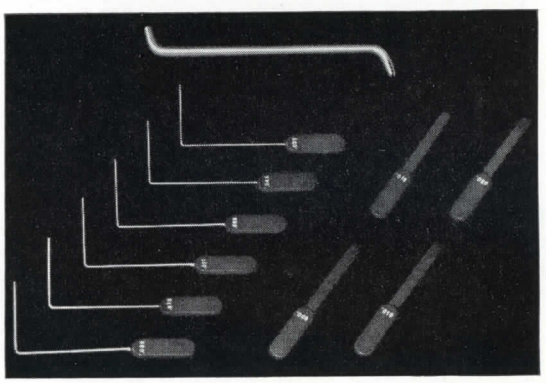
Wholesaler Standard Package — 6 sets. Shipping weight, 2 lbs.

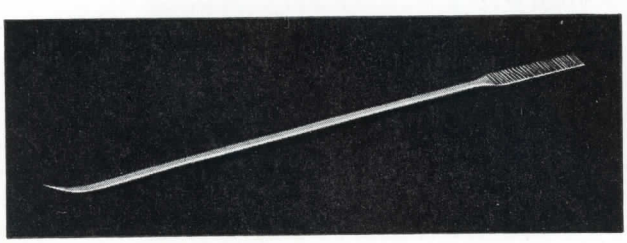
MODEL 38

POINT ALIGNING TOOL

For correctly aligning rib type (high speed) movable breaker arm, channel type movable breaker arm and stationary breaker arm support. A precision tool for faster ignition service.

Wholesaler Standard Package — 6 tools. Shipping weight, 2 lbs.





MODEL 17

REGULATOR POINT FILE

The model 17 is a special file for regulator service. Has a rifler on one end, and a flat finishing file on the other, providing a very useful combination for cleaning regulator contacts.

Wholesaler Standard Package 12 Files. Shipping weight, 1 lb.

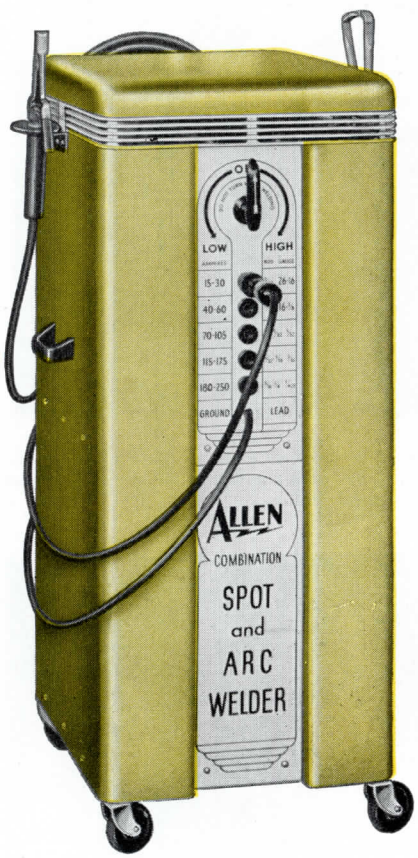
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KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 3-15-48

Form C-225 A. AW
Supercedes C-225 — 2-5-48

ALLEN SPOT and ARC WELDERS

MODEL E-296 ALLEN SPOT AND ARC WELDER



FRONT VIEW
(ARC WELDER)

Advantages of Spot Welding

1. Saves up to 75% in time in replacing metal tops.
2. Welds made similarly to original manufacture.
3. Metal Warpage eliminated.
4. Refinishing time reduced.
5. Spots made at rear of seams eliminate squeaks.
6. Copper tongs removable from hand clamp.

Allen Spot Welding is used in replacing metal tops, door and quarter panels, repairing fenders, and welding other types of sheet steel.

Bolting, soldering, arc and acetylene welding are eliminated and tighter joints at much lower costs for labor and material are assured. Welds sheet metal up to combined thickness of ⅛". Welder height allows leads to extend through windows. Switch conveniently located on hand clamp.

Leading car and body manufacturers recommend the use of Allen Spot Welders.

The arc welder portion of the Model E-296 is the same as the Model E-275 Arc Welder. See page covering the Model E-275 for a complete description of the arc welder features.

A 3-wire AC cable, ground cable with lug, and electrode holder with cable are furnished with the Model E-296. Headshield and other accessories are extra.

Spot Welder Tongs are available separately. Specify tongs required when placing order.

Dimensions 19" x 19" x 48". Shipping weight: 362 lbs.



BACK VIEW
(SPOT WELDER)

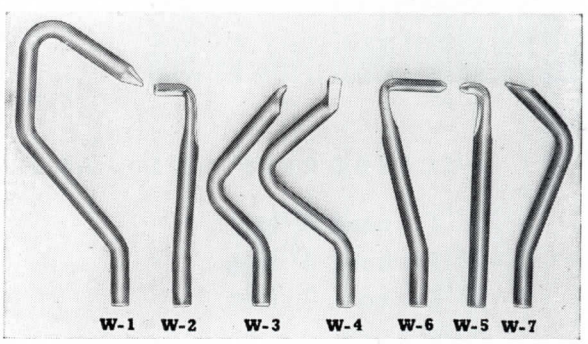
SPOT WELDER TONGS

MODELS W-1, W-2, W-3, W-4, W-5, W-6 and W-7

Fisher Bodies require tongs W-1, W-2, W-3, W-4 and W-7.
Chrysler Corp., Packard, Graham and Hudson Bodies require tongs W-1, W-2, W-3 and W-4.
Ford Bodies require tongs W-3 and W-4.
Studebaker Bodies require tongs W-2, W-3, W-4, W-5, W-6 and W-7.
Willys Bodies require tongs W-2, W-3 and W-6.
W-5 and W-6 Tongs have "Elkaloy" Tips.

SPECIAL TONGS

The purchaser of an Allen Welder can construct special tongs to meet his requirements. ⅝" unmachined copper rod is required for this purpose, which may be purchased from us at $1.25 per foot.

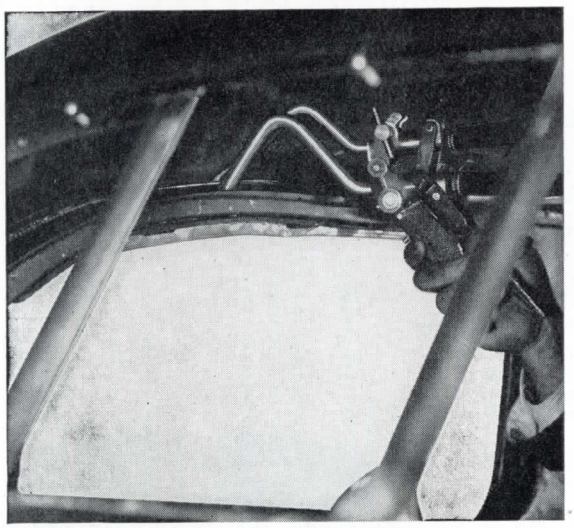


ALLEN ELECTRIC and EQUIPMENT CO.
KALAMAZOO, MICHIGAN

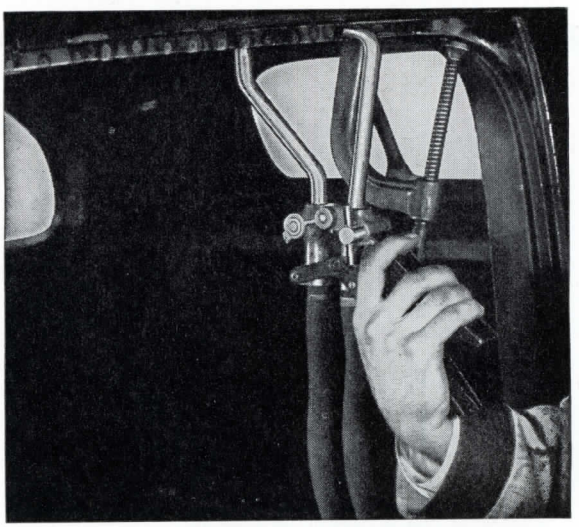
PRINTED IN U.S.A. 10-1-47

Form C-300 AW, BW, W

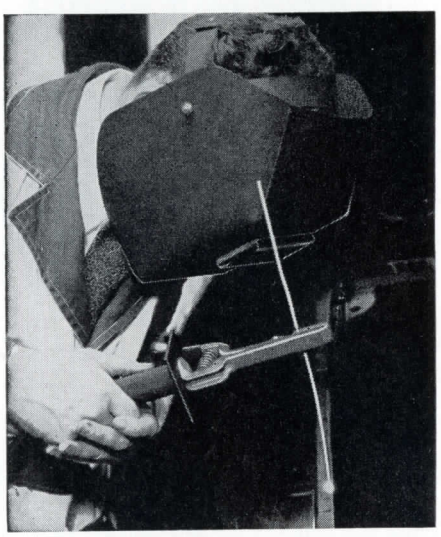
SPOT and ARC WELDING OPERATIONS



Spot welding a top to a rear quarter panel over the side window on the inside of the body. Note the ease of performing this difficult operation. View is through the rear window.

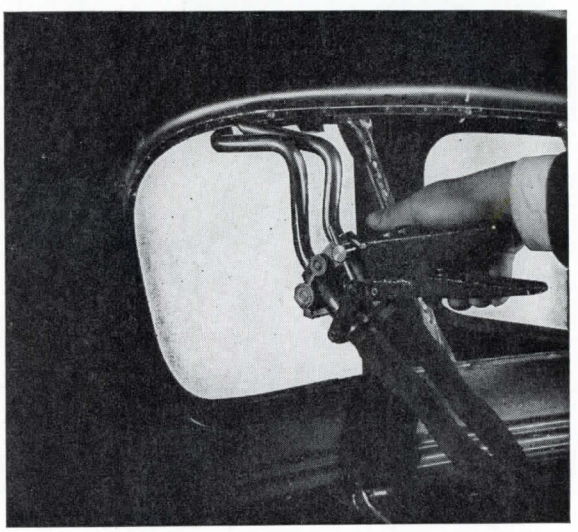


Spot welding a top to a roof rail over the door opening. The weld is made at the upper or lower flange portion or both and through three thicknesses of metal.



The illustration at left is of a quarter panel being welded to a frame, which is an example of joining thin metal to thick. Allen's low heat range prevents burning away the thin metal on such jobs. The arc welder of the Model E-296 has thirty heat stages. It is used to weld pillar posts, cowl and also the top to the body opposite the rear window which cannot be spot welded.

Spot welding a top to a rear window frame. Tongs W-2 and W-3 are also satisfactory for this operation. Attaching a top to a windshield frame is performed in the same manner.



ACCESSORIES AND PARTS FOR ALLEN WELDING EQUIPMENT

¼″ Carbons, 8″ long.
⅜″ Carbons, 8″ long.
½″ Carbons, 8″ long.
Head Shield.
Electrode Holder.
Welding Lens No. 10 (Colored)
Welding Lens Protective Cover (Clear Glass).
Extra Welding Cable.

ALLEN *ELECTRIC and EQUIPMENT CO.*
KALAMAZOO, MICHIGAN

NTED IN U.S.A. 10-1-47

Form C-300 AW, BW, W

ALLEN A. C. ARC WELDER

MODEL E-275

UNDERWRITER APPROVED AT FULL OUTPUT OF 250 AMPERES

Short Circuit Tested at 310 Amperes for 8 hours without Damage to Transformer.

Easy to Strike and Maintain Arc

Low Heat Range Exclusive Feature

Easy To Weld Sheet Metal



MODEL E-275 — 30 Heat Stages — 15 to 250 Amperes — 220 or 440 volts. Specify Voltage When Ordering. Highly Satisfactory for Both Light and Heavy Duty Welding.

Dimensions — 19" x 19" x 25" — Net Weight, 230 lbs. Shipping weight, 294 lbs.

SOME OF THE MANY USES FOR THE ALLEN WELDER

Axles	Drive Rods	Lathes
Boat Hulls	Fenders	Machinery
Bodies	Firepots	Motor Blocks
Boilers	Frames	Roofs
Bridges	Furnaces	Shafts
Buildings	Gears	Sheet Metal
Bumpers	Gutters	Smokestacks
Chains	Housings	Steel
Conveyors	Iron Fences	Trucks
Cornices	Iron Pipes	Tanks
Cylinder Heads	Iron Rails	Tools
Dredges	Iron Wheels	Tractors

ACCESSORIES SUPPLIED

The accessories furnished with the Model E-275, Allen Welder, consist of:

1 15 ft. 3-wire AC Cable.
1 15 ft. Ground Cable with Lug.
1 15 ft. Electrode Cable.
1 Electrode Holder.

If hand shields, head shield, helmet lens, electrode holders, or other accessories are desired, they can be furnished at additional cost.

ELECTRICAL SPECIFICATIONS FOR ALLEN A.C. ARC WELDER

The Allen Welder conforms to the Underwriters electrical standards, and is designed for extremely efficient performance, lower operating cost and long life.

1. Temperature rise does not exceed 50° Centigrade when under full load.
2. Frequency, 50 and 60 cycles.
3. Primary voltage, 220 volts or 440 volts. Specify when ordering.
4. Primary amperage, 40 amperes at full output.
5. Secondary open circuit voltage, 78 volts.
6. Secondary amperage, 15 to 250 amperes.
7. Arc voltage, 20 volts.
8. Rated KVA input 10.12.
9. Power factor, 55% approx.
10. Rated KW input 5.6.
11. Horsepower 7.5.

ALLEN ELECTRIC and EQUIPMENT CO.
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 2-20-48

Form C-305 AW, BW
Supercedes C-305 — 10-1

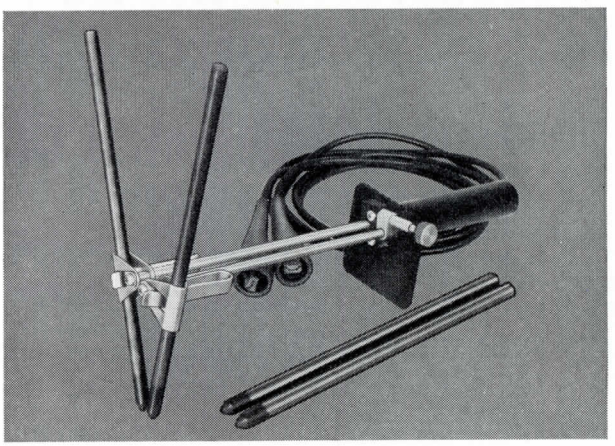
ALLEN A. C. WELDING TORCH

Can be used with any A. C. Arc Welder

MODEL E-278

A Few of the Many Uses

1. Brazing auto fenders — wide range of auto body repair jobs done cheaper and better by this method.
2. Brazing or welding copper tubes or sheets.
3. Welding aluminum cylinder heads.
4. Soldering or brazing copper tubing to galvanized iron — accomplished without destroying galvanizing.
5. Many types of heating applications — for instance, heating automobile bumpers preparatory to straightening.
6. Welding metal window frames, grilles and ornamental metal work.
7. Hard surfacing metal rolls.



MODEL E-278 — Furnished complete with two 6-foot cables, four 3/8" carbons and four 1/4" carbons. Shipping weight, 7 lbs. (Cables equipped with clips for use with any make welder.)

CREATES MANY NEW JOB POSSIBILITIES FOR YOUR WELDING EQUIPMENT

No AC arc welding department can be considered complete without the Allen Welding Torch.

The appliance, easy to use and trouble-free, makes possible handling a great many jobs which previously could be done only by using oxy-acetylene equipment.

Brass, red brass, bronze, phosphor bronze, aluminum, nickel and other non-ferrous metals can be welded, brazed or soldered — and in less time and with better results than when employing older methods. Hard surfacing and preheating are other types of work which can be successfully handled.

Either a welding rod of the same metal, or a piece of the material to be welded, may be used as a filler. Strong welds are produced, free from porosity.

Heat of flame can be easily controlled by changing the ampere stages. Since there is no gas pressure behind the flame, as with oxy-acetylene, the molten metal is not forced away from the surface being worked upon.

ACCESSORIES AND PARTS
FOR ALLEN A. C. WELDER AND WELDING TORCH

1/4" Carbons, 8" long.
3/8" Carbons, 8" long.
1/2" Carbons, 8" long.
Head Shield.
Electrode Holder.
Welding Lens No. 10 (Colored).
Welding Lens Protective Cover (Clear Glass).
Extra Welding Cable.

ALLEN ***ELECTRIC and EQUIPMENT CO.***
KALAMAZOO, MICHIGAN

PRINTED IN U.S.A. 10-1-47

Form C-305 AW, BW, W

DEALER NET PRICE LIST - EAST -- EAST OF THE STATES OF MONT., WYO., COLO. AND N. M.

EFFECTIVE FEBRUARY 15, 1949

MODEL NO.	NAME OF PRODUCT	PRICE EA.
No. 17	Regulator Point File	$1.30
No. 37	Tool and Gauge Package	2.75
No. 38	Point Aligning Tool	3.50
No. 39	Generator Brush Seating Stone	.40
	(Also Available in 36 Stone Display Carton)	
No. 40	Commutator Polishing Stone	.40
	(Also Available in 36 Stone Display Carton)	
E-1	Unitron Battery Charger, 220V, 50 or 60C.	66.75
E-2	Unitron Battery Charger	
	115 Volts, 50 or 60 cycle	114.50
	115 Volts, 25, 30, or 40 cycle	135.00
E-2A	Unitron Battery Charger, 220V, 50 or 60C.	132.50
E-6	Unitron Battery Charger, 220V, 50 or 60C.	60.40
E-15	Unitron Battery Charger	
	115 Volts, 50 or 60 cycle	49.50
	115 Volts, 25, 30, or 40 cycle	63.50
E-23	Timing Light	6.00
E-30	Armature Growler	
	115 Volts, 50 or 60 cycle	21.50
	115 Volts, 25, 30, or 40 cycle	23.00
	220 Volts, 50 or 60 cycle	23.00
E-32	Armature Growler	
	115 Volts, 50 or 60 cycle	39.50
	115 Volts, 25, 30, or 40 cycle	41.70
	220 Volts, 50 or 60 cycle	41.70
E-36	Magneto Magnetizer-Comp. with E-87 Blocks	
	6 Volts, D. C.	48.50
	115, 220 Volts D. C.	61.50
E-51-C	Cell Tester	4.95
E-68	Starting Motor Torque Test - (For E-530)-	12.70
E-87	Special Charging Blocks (Used with E-36)-	10.50
E-109	Mica Undercutter	
	115 Volts, A.C. or D.C.	53.50
	220 Volts, A.C. or D.C.	60.00
E-139	Mirro-Cut Armature Lathe and Undercutter-	74.50
E-161	Magneto Magnetizer	
	115 Volts, 50 or 60 cycle	188.50
	220 Volts, 50 or 60 cycle	213.50
E-162	Flywheel Magneto Blocks	10.00
E-165	Grounding Leads	3.00
E-175	Coil, Cond. & Cir. Tester, 6 Volts, D. C.	49.50
E-215	Starter Load Rheostat	15.50
+ E-241	Electrical Laboratory (See Footnote)	
	220, 440, 550 Volts, 50 or 60 cycle	
	3 phase, 4 H.P., 2 speed	1235.00
	220, 440, 550 Volts, 50 or 60 cycle	
	3 phase, 4 H.P., 1 speed	1165.00
	220, 440, 550 Volts, 25 cycle	
	3 phase, 4 H.P., 1 speed	1208.00
	220 Volts, 50 or 60 cycle	
	1 phase, 4 H.P., 1 speed	1267.00
E-243	Starting Motor Torque Test - (For E-241)-	20.40
E-244	Magneto Flange Holding Fixture	18.50
E-245	Magneto Reduction Drive Fixture	54.00
E-249	12 Point Adjustable Spark Gap	40.00
E-275	Allen A.C. Arc Welder	
	220 Volts, 50 or 60 cycle	225.00
	440 Volts, 50 or 60 cycle	235.00
E-278	A.C. Welding Torch	21.50
E-296	Combination Spot and Arc Welder	
	220 Volts, 50 or 60 cycle	295.00
	440 Volts, 50 or 60 cycle	313.00
E-300	Motor Analyzer	
	115 Volts, 50 or 60 cycle	615.00
	115 Volts, 25, 30, or 40 cycle	640.00
	220 Volts, 50 or 60 cycle	640.00
	*6 Volts, D. C.	597.00
E-301	Condenser Tester	64.50
E-302	Volt-Amp Tester	74.50
	Shunt for E-302 - 10 Ampere	4.50
	Shunt for E-302 - 200 Ampere	6.00
	Shunt for E-302 - 1000 Ampere	4.50
E-303	Coil Tester	68.50
E-304	Dwell-Tach Tester	68.50
E-305	Vacuum and Fuel Pump Tester	37.50
E-306	Combustion Analyzer	80.00
E-310	Cabinet (Motor Analyzer)	
	115 Volts, 50 or 60 cycle	$179.80
	115 Volts, 25, 30, or 40 cycle	204.80
	220 Volts, 50 or 60 cycle	204.80
	* 6 Volts, D. C.	161.80
E-316 ‡	Syncrograph	
	115 Volts, 50 or 60 cycle	369.00
E-316A	Instrument Brackets (Per Pair)	2.00
E-316HD	Syncrograph	
	115 Volts, 50 or 60 cycle	525.00
	220 Volts, 50 or 60 cycle	550.00
E-318	Motor Analyzer	
	6 Volts, D. C.	345.00
E-319	Syncrograph	
	115 Volts, 50 or 60 cycle	330.00
	115 Volts, 25, 30, or 40 cycle	355.00
	220 Volts, 50 or 60 cycle	355.00
E-323	Power Timing Light, 6 Volts D. C.	24.95
E-325	Cam - Tach Tester	125.00
E-326	Analyzer - Vacuum and Fuel Pump Tester	150.00
E-340	Compression Tester	16.75
E-345	Vacuum and Fuel Pump Tester	15.75
E-530	Electric Servicer, 220 V., 50 or 60 cycle	635.00
E-532	Electric Servicer Stand Only	40.00
E-535	Electric Servicer, 220V., 50 or 60 cycle-	595.00
E-537	Magneto Flange Holding Fixture	21.00
E-538	Magneto Holding Fixture	25.00
E-539	Magneto Reduction Drive Fixture	56.65
E-540	12 Point Adjustable Spark Gap	40.00
F-8	Dual Range Voltmeter	18.75
F-52	Portable Fast Charger	
	115 Volts, 50 or 60 cycle	89.50
	220 Volts, 50 or 60 cycle	109.50
F-60	Unitron Bulb	4.25
F-128 ‡	Fast Charger	
	115 Volts, 50 or 60 cycle	177.50
	220 Volts, 50 or 60 cycle	202.50
F-200	Fast Charger	
	115 Volts, 50 or 60 cycle	149.50
	220 Volts, 50 or 60 cycle	165.00
G-13	Compression Gauge	13.75
G-16	Spring Tension Gauge	7.50
G-17	Sensitive Vacuum Gauge	25.00
H-5	Radiator Test Plug Set (Universal)	8.00
H-6	Radiator Test Plug Set (Chevrolet)	2.90
H-9	Radiator Test Plug Set (Ford)	4.30
P-5	Combination Puller Press and Pole Shoe Screwdriver	88.50
P-5B	Puller Plate	10.90
P-10	Pole Shoe Screwdriver	10.00
W-1	Spot Welder Tong	4.40
W-2	Spot Welder Tong	2.80
W-3	Spot Welder Tong	2.50
W-4	Spot Welder Tong	4.00
W-5	Spot Welder Tong	3.10
W-6	Spot Welder Tong	3.95
W-7	Spot Welder Tong	2.50

ACCESSORIES AND PARTS FOR ALLEN WELDING EQUIPMENT

1/4" Carbons 8" long, Each	.20
3/8" Carbons 8" long, Each	.25
1/2" Carbons 8" long, Each	.50
Head Shield	6.50
Electrode Holder	4.50
Welding Lens No. 10 (Colored)	2.00
Welding Lens Protective Cover (Clear glass)	.10
Extra Welding Cable (Per Foot)	.30

* Trickle Charger and Nameplate Light NOT included.

\+ Specify exact voltage, cycle, speed and phase when ordering E-241.

‡ Discontinued.

THE INVOICE PRICE OF ALL PRODUCTS WILL BE THE PREVAILING PUBLISHED PRICE AT TIME OF SHIPMENT.

ALLEN ELECTRIC AND EQUIPMENT CO.

2101 N. PITCHER ST. KALAMAZOO, MICHIGAN, U. S. A.

FORM NO. 167L PRINTED IN U.S.A.

DEALER NET PRICE LIST - EAST

EAST OF THE STATES OF -- MONT., WYO., COLO. AND N. M.

EFFECTIVE FEBRUARY 15, 1949

MODEL NO.	NAME OF PRODUCT	PRICE EA.
No. 17	Regulator Point File	$1.40
No. 27	Tool and Gauge Package	2.75
No. 52	Point Aligning Tool	3.80
No. 35	Generator Brush Seating Stone	.40
	(Also Available in 36 Stone Display Cartons)	
No. 40	Commutator Polishing Stone	.40
	(Also Available in 36 Stone Display Carton)	
E-1	Ultiton Battery Charger, 220V, 50 or 60C.	66.75
E-2	Ultiton Battery Charger	
	110 Volts, 50 or 60 Cycle	124.80
	110 Volts, 25, 50, or 40 Cycle	128.00
E-2A	Ultiton Battery Charger, 220V, 50 or 60C.	132.80
E-6	Ultiton Battery Charger, 220V, 50 or 60C.	66.40
E-12	Ultiton Battery Charger	
	110 Volts, 50 or 60 Cycle	46.80
	110 Volts, 25, 50, or 40 Cycle	63.80
E-35	Timing Light	8.00
E-50	Armature Growler	
	110 Volts, 50 or 60 Cycle	21.80
	110 Volts, 25, 50, or 40 Cycle	25.00
	220 Volts, 50 or 60 Cycle	25.00
E-55	Armature Growler	
	110 Volts, 50 or 60 Cycle	39.80
	110 Volts, 25, 50, or 40 Cycle	41.70
	220 Volts, 50 or 60 Cycle	41.70
E-66	Magneto Magneto-Dump, with E-67 Blocks	
	6 Volts, D. C.	48.80
	110, 220 Volts D. C.	61.80
E-81-C	Coil Tester	4.95
E-88	Starting Motor Torque Test - (for E-880)-	12.70
E-97	Special Charging Blocks (Used with E-96)-	10.50
E-100	Mica Undercutter	
	110 Volts, A.C. or D.C.	52.80
	220 Volts, A.C. or D.C.	52.00
E-102	Mirro-Cut Armature Lathe and Undercutter-	74.50
E-161	Magneto Magnetizer	
	110 Volts, 50 or 60 Cycle	148.80
	220 Volts, 50 or 60 Cycle	213.80
E-162	Flywheel Magneto Blocks	10.00
E-163	Grounding Leads	3.00
E-178	Coil, Cond. & Clr. Tester, 6 Volts D. C.	49.80
E-212	Starter Load Rheostat	12.80
+ E-241	Electrical Laboratory (See Footnote)	
	220, 440, 550 Volts, 50 or 60 Cycle	
	3 phase, 4 H.P., 3 speed	1280.00
	220, 440, 550 Volts, 50 or 60 Cycle	
	3 phase, 4 H.P., 2 speed	1165.00
	220, 440, 550 Volts, 50 Cycle	
	3 phase, 4 H.P., 2 speed	1208.00
	220 Volts, 50 or 60 Cycle	
	1 phase, 4 H.P., 2 speed	1207.00
E-242	Starting Motor Torque Test - (for E-241)-	20.80
E-244	Magneto Flange Holding Fixture	18.80
E-245	Magneto Reduction Drive Fixture	64.00
E-249	12 Point Adjustable Spark Gap	40.00
E-275	Allen A.C. Arc Welder	
	220 Volts, 50 or 60 Cycle	288.00
	440 Volts, 50 or 60 Cycle	288.00
E-278	A.C. Welding Torch	21.80
E-290	Combination Spot and Arc Welder	
	220 Volts, 50 or 60 Cycle	288.00
	440 Volts, 50 or 60 Cycle	318.00
E-300	Motor Analyzer	
	110 Volts, 50 or 60 Cycle	615.00
	110 Volts, 25, 50, or 40 Cycle	640.00
	220 Volts, 50 or 60 Cycle	640.00
	6 Volts, D. C.	587.00
E-301	Condenser Tester	84.80
E-302	Volt-Amp Tester	74.80
	Shunt for E-302 - 10 Ampere	4.80
	Shunt for E-302 - 250 Ampere	5.00
	Shunt for E-302 - 1000 Ampere	6.80
E-303	Coil Tester	58.80
E-304	Small-Tool Tester	88.80
E-305	Testing and Fuel Pump Tester	67.80
E-306	Compression Analyzer	80.00

MODEL NO.	NAME OF PRODUCT	PRICE EA.
E-310	Cabinet (Motor Analyzer)	
	110 Volts, 50 or 60 Cycle	$179.80
	110 Volts, 25, 50, or 40 Cycle	204.80
	220 Volts, 50 or 60 Cycle	204.80
	* 6 Volts, D. C.	181.80
E-310 †	Spectrograph	
	110 Volts, 50 or 60 Cycle	369.00
E-310A	Instrument Brackets (Per Pair)	8.00
E-310HD	Spectrograph	
	110 Volts, 50 or 60 Cycle	858.00
	220 Volts, 50 or 60 Cycle	900.00
E-315	Motor Analyzer	
	6 Volts, D. C.	345.00
E-320	Spectrograph	
	110 Volts, 50 or 60 Cycle	330.00
	110 Volts, 25, 50, or 40 Cycle	355.00
	220 Volts, 50 or 60 Cycle	355.00
E-325	Power Timing Light, 6 Volts D. C.	58.80
E-325S	Cam - Tach Tester	125.00
E-326	Analyzer - Vacuum and Fuel Pump Tester --	180.00
E-340	Compression Tester	16.70
E-345	Vacuum and Fuel Pump Tester	10.70
E-350	Electric Servicer, 220 V., 50 or 60 Cycle	858.00
E-352	Electric Servicer Stand Only	40.00
E-358	Electric Servicer, 220V., 50 or 60 Cycle-	880.00
E-357	Magneto Timing Holding Fixture	21.00
E-358	Magneto Holding Fixture	25.00
E-359	Magneto Reduction Drive Fixture	86.80
E-360	12 Point Adjustable Spark Gap	40.00
P-5	Dual Range Voltmeter	18.75
P-52	Portable Fast Charger	
	110 Volts, 50 or 60 Cycle	80.00
	220 Volts, 50 or 60 Cycle	100.00
P-60	Ultra Amb	4.80
P-138 ‡	Fast Charger	
	110 Volts, 50 or 60 Cycle	177.80
	220 Volts, 50 or 60 Cycle	208.80
P-200	Fast Charger	
	110 Volts, 50 or 60 Cycle	148.80
	220 Volts, 50 or 60 Cycle	180.00
S-12	Compression Gauge	12.75
S-16	Spring Tension Gauge	7.80
S-17	Sensitive Vacuum Gauge	25.00
W-5	Radiator Test Plug Set (Universal)	8.00
W-6	Radiator Test Plug Set (Chevrolet)	8.80
W-9	Radiator Test Plug Set (Ford)	4.80
P-5	Combination Puller Press and Pole	
	Shop Screwdriver	88.80
P-12	Puller Plate	10.80
P-10	Pole Shoe Screwdriver	10.00
W-1	Spot Welder Tong	4.40
W-2	Spot Welder Tong	5.80
W-3	Spot Welder Tong	6.80
W-4	Spot Welder Tong	4.00
W-5	Spot Welder Tong	5.10
W-6	Spot Welder Tong	3.80
W-7	Spot Welder Tong	3.80

ACCESSORIES AND PARTS FOR ALLEN WELDING EQUIPMENT

1/4" Carbons 6" long, Each	.20
5/8" Carbons 6" long, Each	.25
1/2" Carbons 6" long, Each	.30
Head Shield	4.80
Electrode Holder	4.80
Welding Lens No. 10 (Colored)	2.00
Welding Lens Protective Cover (Clear Glass)	.05
Extra Welding Cable (Per Foot)	.06

* Provide Charger and Ammeter Light NOT Included.

† Specify exact voltage, cycle, speed and phase when ordering E-241.

‡ Discontinued.

THE INVOICE PRICE OF ALL PRODUCTS WILL BE THE PREVAILING POSTED PRICE AT TIME OF SHIPMENT.

ALLEN ELECTRIC AND EQUIPMENT CO.

2101 N. PITCHER ST. KALAMAZOO, MICHIGAN, U.S.A.

FORM NO. 1071L PRINTED IN U.S.A.